



August 25, 2023

Kevin Corbid, Washington County Administrator & Washington County Commissioners
Washington County Government Center
14949 62nd Street North
Stillwater, MN, 55082

Dear Administrator Corbid & Commissioners;

Brown's Creek Watershed District has identified a project that will improve the trout stream habitat in Brown's Creek in Stillwater, which is currently listed as impaired for lack of cold water fish and macroinvertebrates.

BCWD has been working closely with Minnesota Department of Natural Resources (Waters, Fisheries, and Trails) and the city of Stillwater to identify opportunities to improve the trout stream habitat in Brown's Creek. A feasibility study shows restoring the existing 2,000 linear feet of Brown's Creek from McKusick Road just upstream of Brown's Creek Park to just downstream of the Brown's Creek State Trail would:

- Reduce bank erosion and subsequent sediment & nutrient loading to the creek and the St. Croix River
- Improve Habitat:
 - Rock riffles will increase fish spawning opportunities and provide stable refuge for macroinvertebrates
 - The project will increase the number and depth of pools that will in turn provide thermal refuge for aquatic biota during the summer months and provide overwintering habitat for fish and amphibians
 - Instream woody structure will provide fish and macroinvertebrate habitat and also protect streambanks from erosion.
 - Native seeding will increase pollinator habitat, diversity and extent of native vegetation over invasive species such as common buckthorn, reed canary grass, and garlic mustard.
 - Reconnected floodplain will improve wetland hydrology and help rehabilitate native riparian vegetation.
 - Establishment of brush piles and snag trees will provide refuge for a variety of non-game species such as small mammals, reptiles, and birds.
- Site access to the creek will include an ADA trail "spur" to create an access to Brown's Creek from the state trail.

This project is proposed to begin with tree and shrub removal in late 2023, stream restoration summer 2024, continued invasive species management fall 2024, replanting spring 2025. This timing takes into account the limitations for working in a trout stream and avoiding impacts to the Northern long-eared bat.

The enclosed preliminary design summary is provided pursuant to Minnesota Statutes section 103D.251, subdivision 2.

The estimated total cost for the project (including engineering and construction) is \$534,500. The project will be funded through a watershed-wide ad valorem levy as authorized by Minnesota Statutes chapter 103B in the amount of \$213,800 and a federal 319 grant administered through the Minnesota Pollution Control Agency in the amount of \$320,700. Of the total project cost \$430,100 will be used for construction and \$104,400 for planning, design, engineering, permitting, and construction oversight.

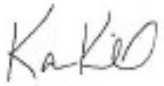
The District will be holding a public hearing at Family Means (1875 Northwestern Ave, Stillwater) on September 13, 2023 at 6:30 pm to receive comments on this project.

Managers:

Klay Eckles, President • Chuck LeRoux, Secretary • Gerald Johnson, Treasurer • Celia Wirth, Vice President

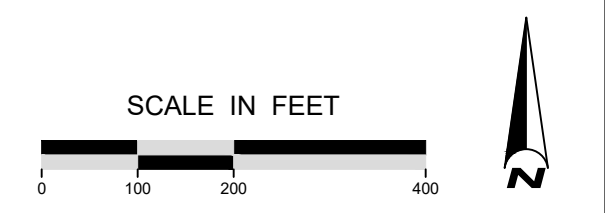
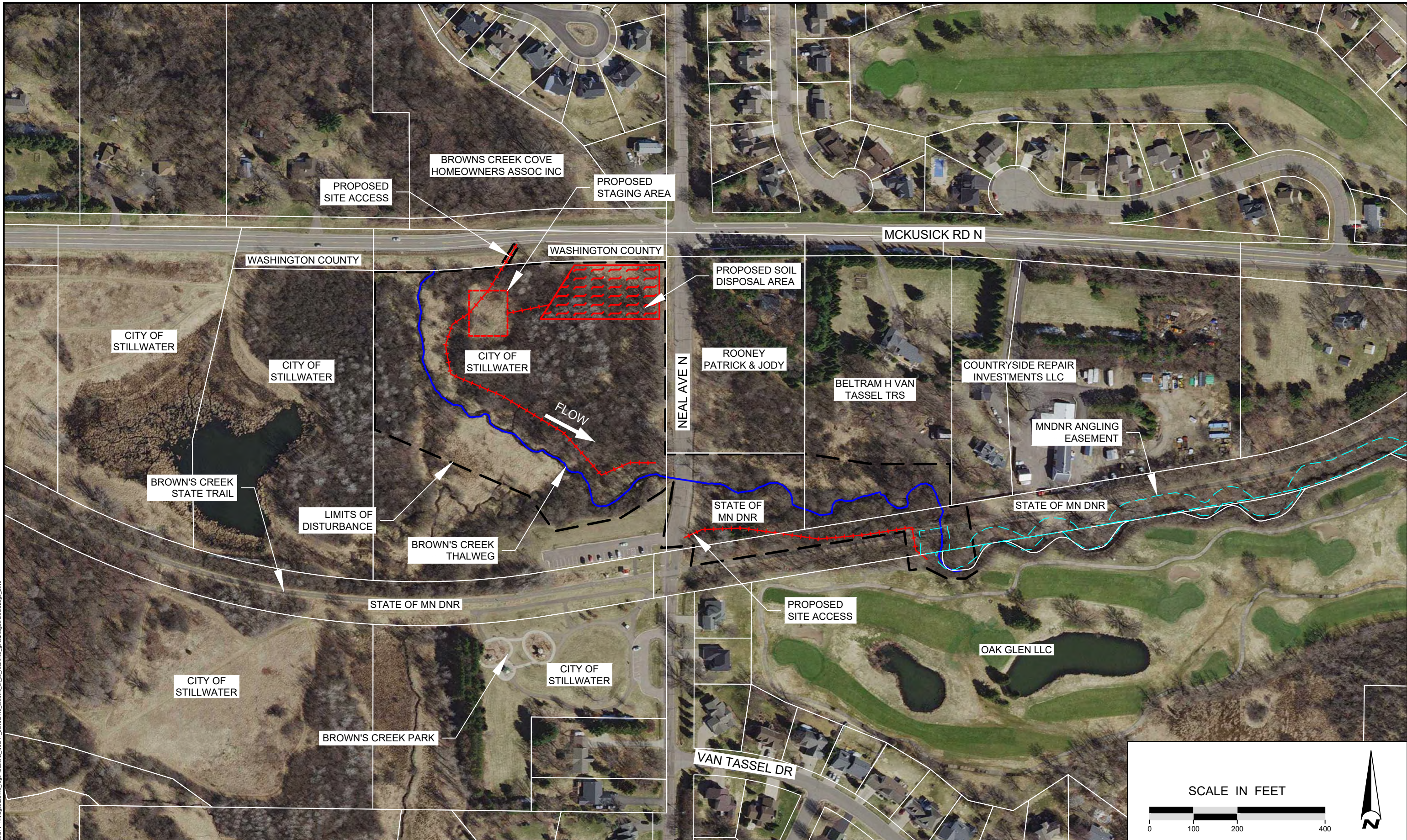
Please feel free to contact me if you have any questions or comments on this project or other BCWD activities. I can be contacted at Karen.kill@mnwcd.org.

Best Regards,

A handwritten signature in cursive script that reads "Karen Kill".

Karen Kill, BCWD Administrator

Cc: Jessica Collins-Pilarski, Washington County Public Health and Environment – via email
Shawn Sanders & Andrew Coyne, City of Stillwater – via email



File Date: 06/30/2023
 Project: 0041-0418-CD.dwg
 Xref: 0041-0418-SURFACE
 40041-0418-RBASE
 40041-0418-RBASE
 40041-0418-RBASE

EOR water ecology community
 EMMONS & OLIVIER RESOURCES, INC.
 1919 UNIV. AVE. W. #300 ST. PAUL, MN
 TEL: 651.770.8448 WWW.EORINC.COM

NOT FOR CONSTRUCTION

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 EOR JOB #0041-0418



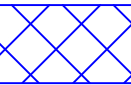
BROWN'S CREEK WATERSHED DISTRICT

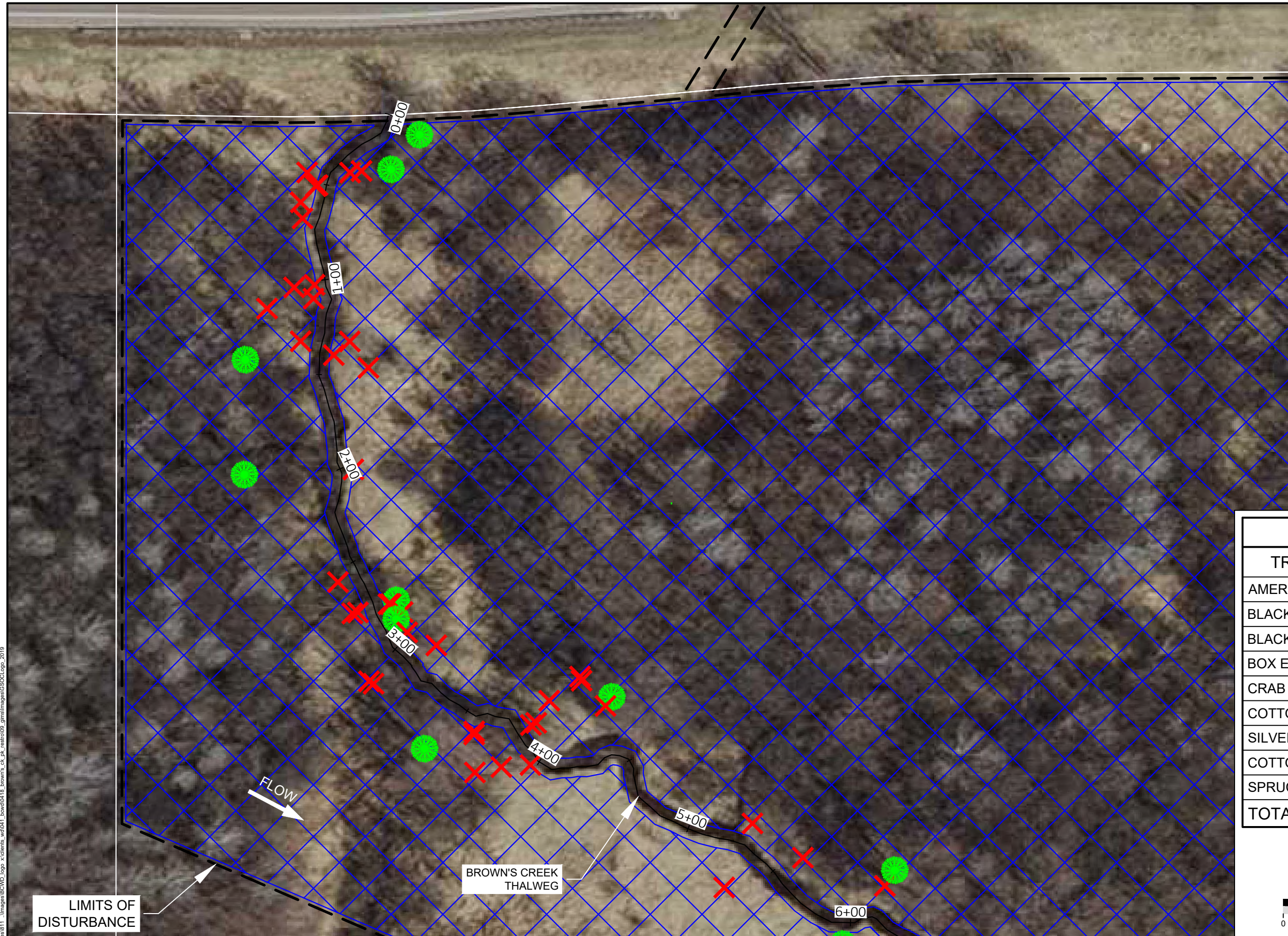
CLIENT PROJECT #XXX-XXXX

BROWN'S CREEK PARK STREAM RESTORATION
 WASHINGTON COUNTY, STILLWATER, MN
 BROWN'S CREEK WATERSHED DISTRICT OAKDALE, MN 55128

PROJECT OVERVIEW
 SHEET 02 OF 19

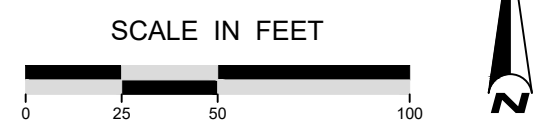
LEGEND

-  TREE TO BE REMOVED
-  PRESERVE TREE
-  INVASIVE SHRUB REMOVAL AREA



NEAL AVEN

TREES TO BE HARVESTED	
TREE TYPE	# TO BE REMOVED
AMERICAN ELM	2
BLACK LOCUST	1
BLACK WILLOW	2
BOX ELDER	184
CRAB APPLE	3
COTTONWOOD	1
SILVER MAPLE	17
COTTONWOOD	1
SPRUCE	1
TOTAL	212



LIMITS OF DISTURBANCE

BROWN'S CREEK THALWEG

FLOW

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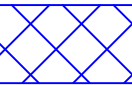
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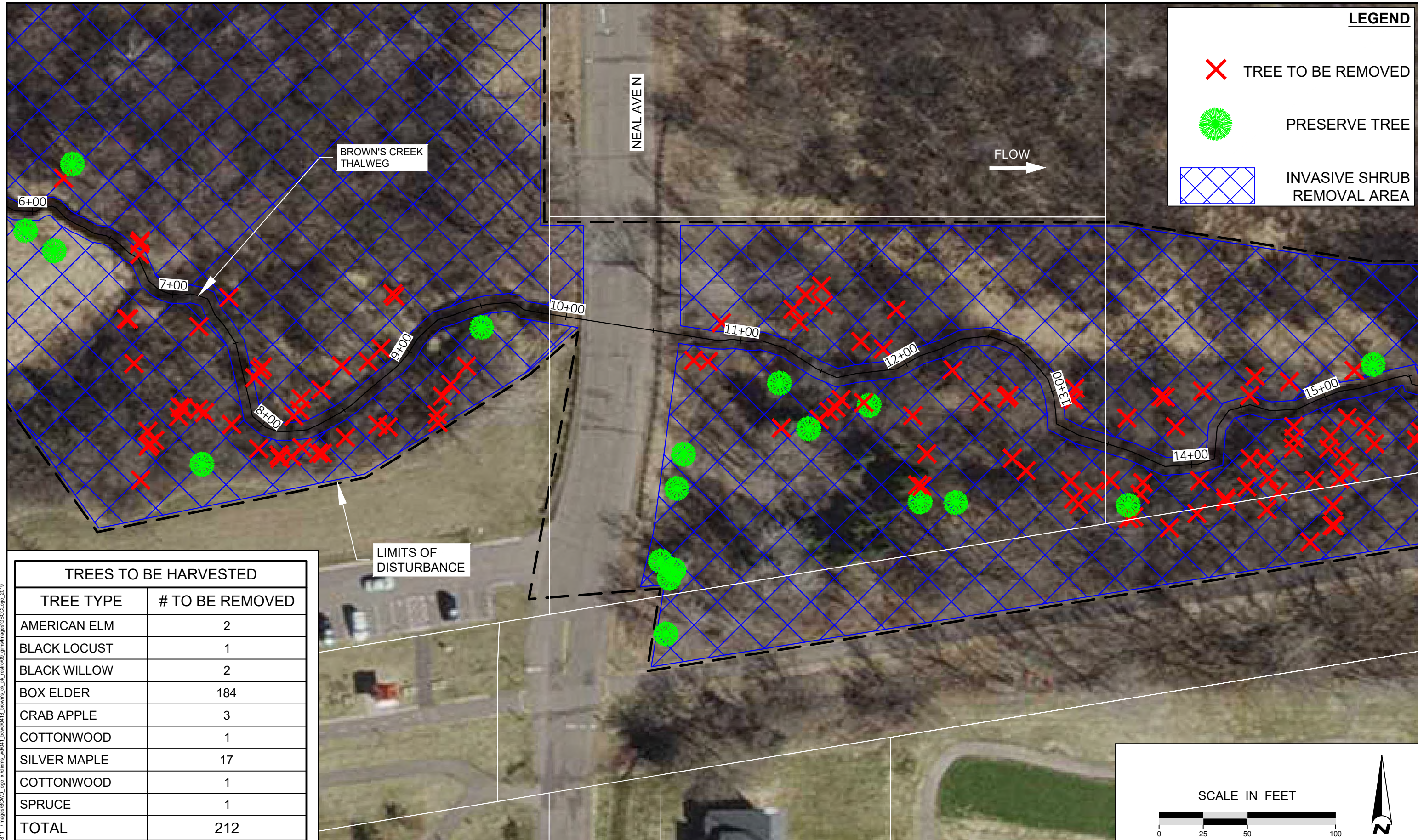
BROWN'S CREEK PARK STREAM RESTORATION
 WASHINGTON COUNTY, STILLWATER, MN
 BROWN'S CREEK WATERSHED DISTRICT OAKDALE, MN 55128

TREE HARVEST PLAN 1
 SHEET 03 OF 19

File Date: 06/30/2023
 Project: 0041-0418-CD.dwg
 Xrefs: 0041-0418-SURFACE
 40041-0418-RBASE
 40041-0418-RBASE
 40041-0418-RBASE
 40041-0418-RBASE

LEGEND

-  TREE TO BE REMOVED
-  PRESERVE TREE
-  INVASIVE SHRUB REMOVAL AREA



TREES TO BE HARVESTED	
TREE TYPE	# TO BE REMOVED
AMERICAN ELM	2
BLACK LOCUST	1
BLACK WILLOW	2
BOX ELDER	184
CRAB APPLE	3
COTTONWOOD	1
SILVER MAPLE	17
COTTONWOOD	1
SPRUCE	1
TOTAL	212

NOT FOR CONSTRUCTION

File Date: 06/30/2023
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 40041_0418-XBASE
 40041_0418-PRGME
 40041_0418-DLGS
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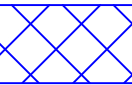
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BROWN'S CREEK WATERSHED DISTRICT

BROWN'S CREEK PARK STREAM RESTORATION
 WASHINGTON COUNTY, STILLWATER, MN
 BROWN'S CREEK WATERSHED DISTRICT OAKDALE, MN 55128

TREE HARVEST PLAN 2
 SHEET 04 OF 19

LEGEND

-  TREE TO BE REMOVED
-  PRESERVE TREE
-  INVASIVE SHRUB REMOVAL AREA



TREES TO BE HARVESTED	
TREE TYPE	# TO BE REMOVED
AMERICAN ELM	2
BLACK LOCUST	1
BLACK WILLOW	2
BOX ELDER	184
CRAB APPLE	3
COTTONWOOD	1
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COTTONWOOD	1
SPRUCE	1
TOTAL	212

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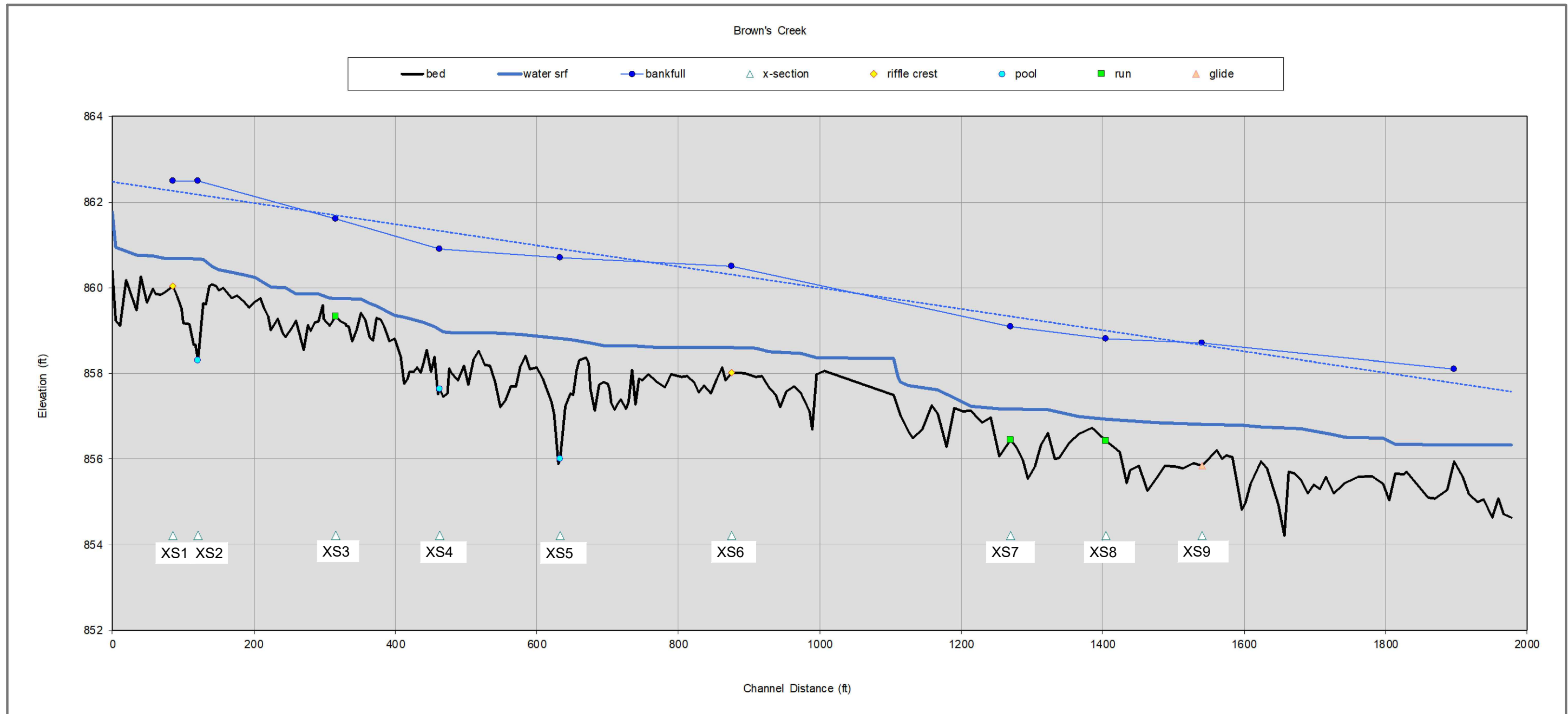
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BROWN'S CREEK WATERSHED DISTRICT

BROWN'S CREEK PARK STREAM RESTORATION
 WASHINGTON COUNTY, STILLWATER, MN
 BROWN'S CREEK WATERSHED DISTRICT OAKDALE, MN 55128

TREE HARVEST PLAN 3
 SHEET 05 OF 19



NOTE:
STREAM AND WATER PROFILE SURVEYED ON DECEMBER 2, 2022

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**BROWN'S CREEK PARK
 STREAM RESTORATION**
 WASHINGTON COUNTY, STILLWATER, MN

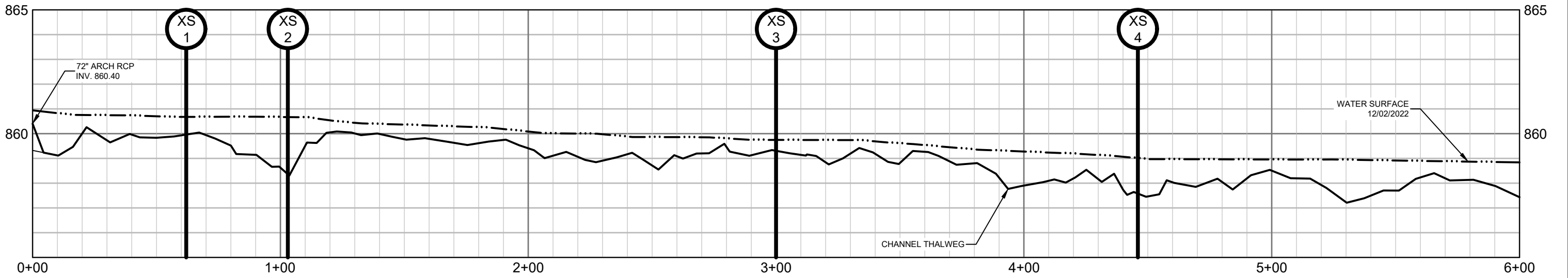
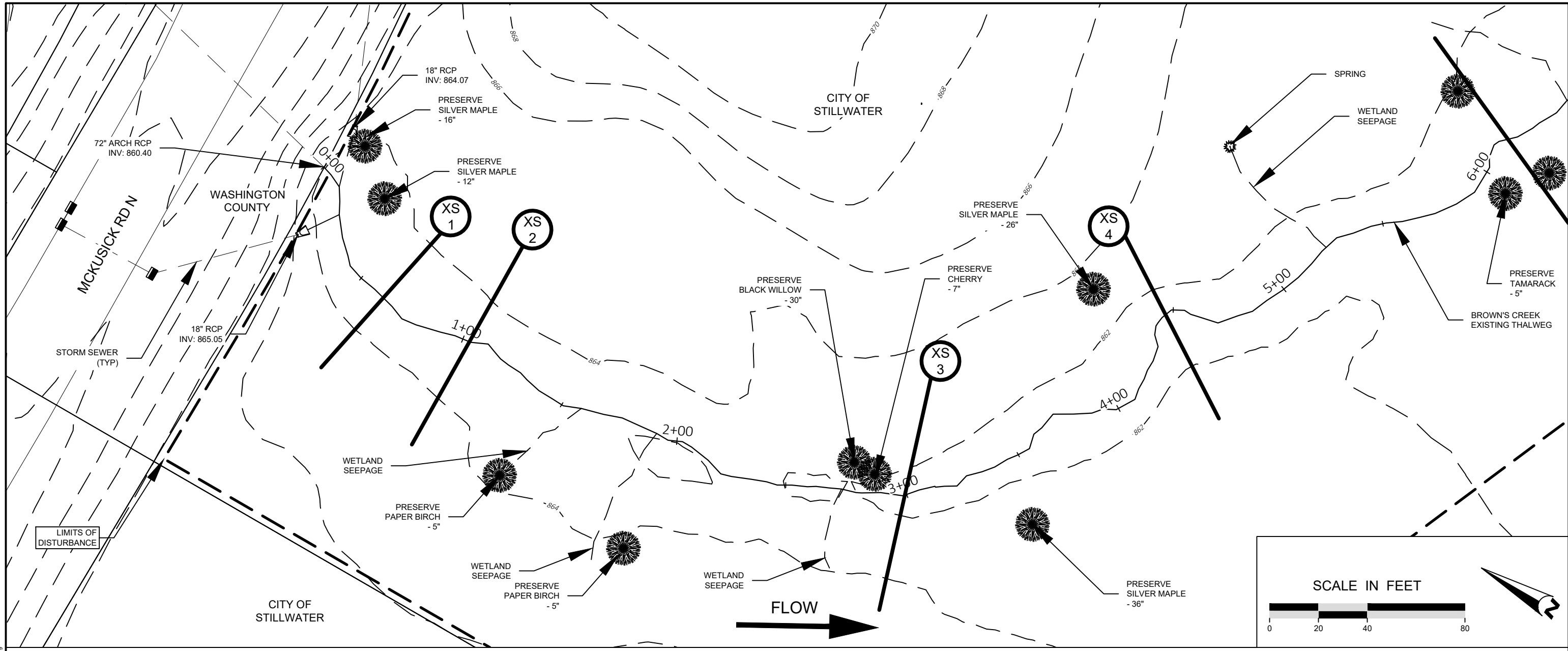
EXISTING STREAM
 PROFILE

EOR JOB #0041-0418

CLIENT PROJECT #XXX-XXXX

BROWN'S CREEK WATERSHED DISTRICT OAKDALE, MN 55128

SHEET 06 OF 19



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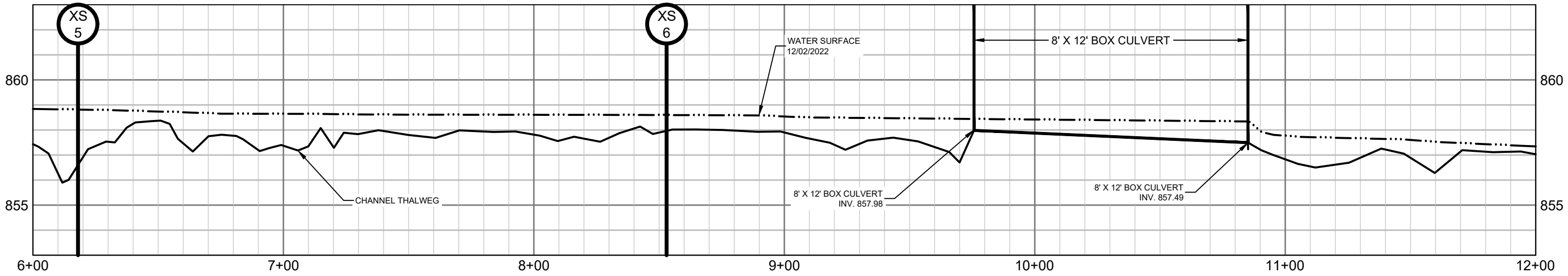
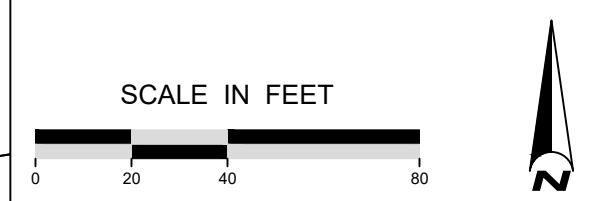
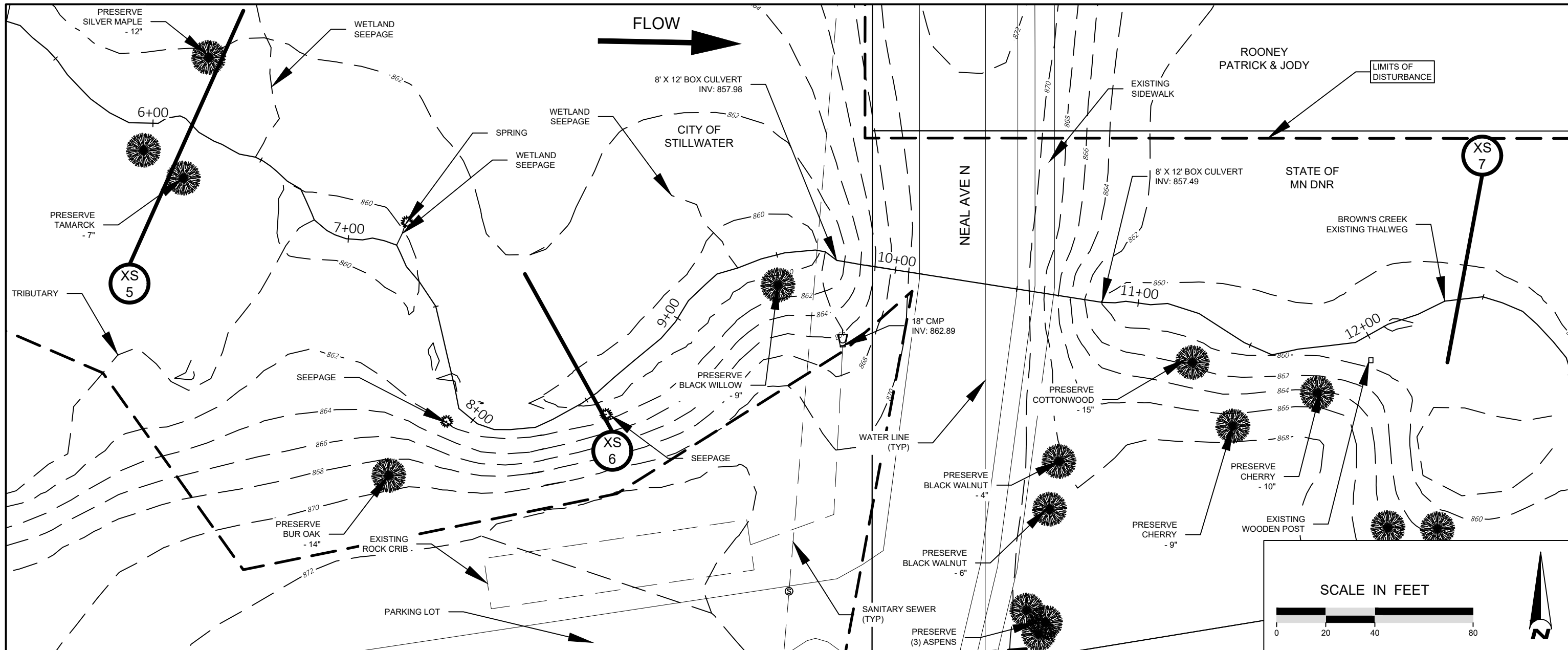
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BROWN'S CREEK WATERSHED DISTRICT
 CLIENT PROJECT #XXX-XXXX

BROWN'S CREEK PARK STREAM RESTORATION
 WASHINGTON COUNTY, STILLWATER, MN
 BROWN'S CREEK WATERSHED DISTRICT OAKDALE, MN 55128

EXISTING CONDITIONS PLAN & PROFILE - 1
 SHEET 07 OF 19

File Date: 06/30/2023
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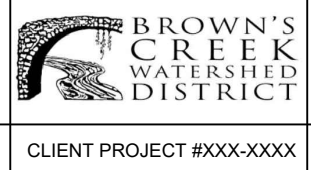


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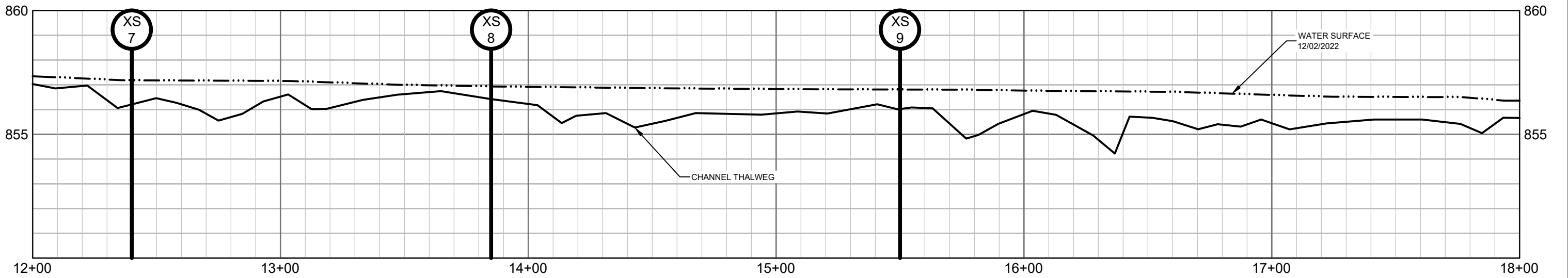
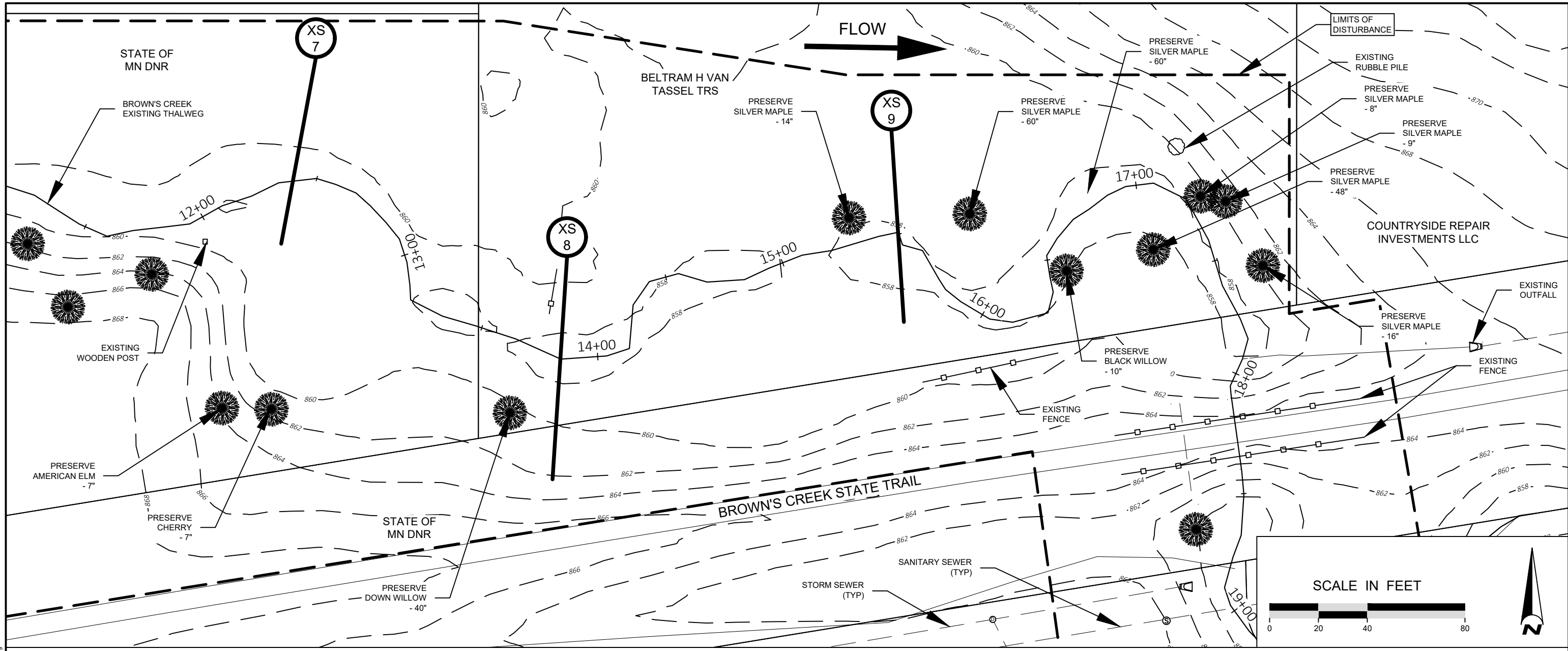
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EOR JOB #0041-0418



BROWN'S CREEK PARK STREAM RESTORATION
WASHINGTON COUNTY, STILLWATER, MN
BROWN'S CREEK WATERSHED DISTRICT OAKDALE, MN 55128

EXISTING CONDITIONS PLAN & PROFILE - 2
SHEET 08 OF 19

File Date: 06/30/2023
 Project: 40041-0418-CD.dwg
 Xrefs: 40041-0418-SURFACE
 40041-0418-RBASE
 40041-0418-PLAN
 40041-0418-CD.dwg



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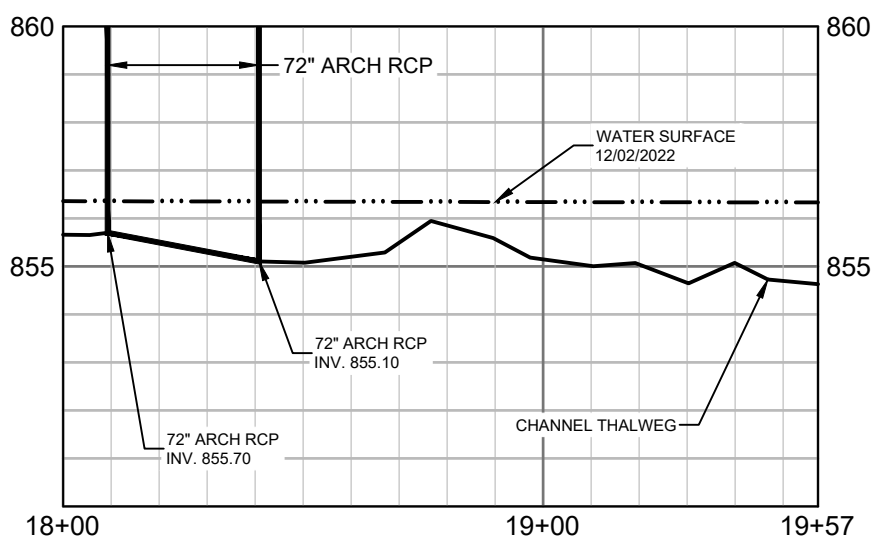
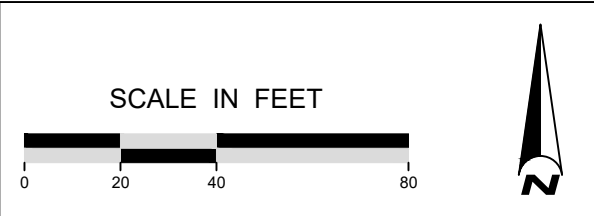
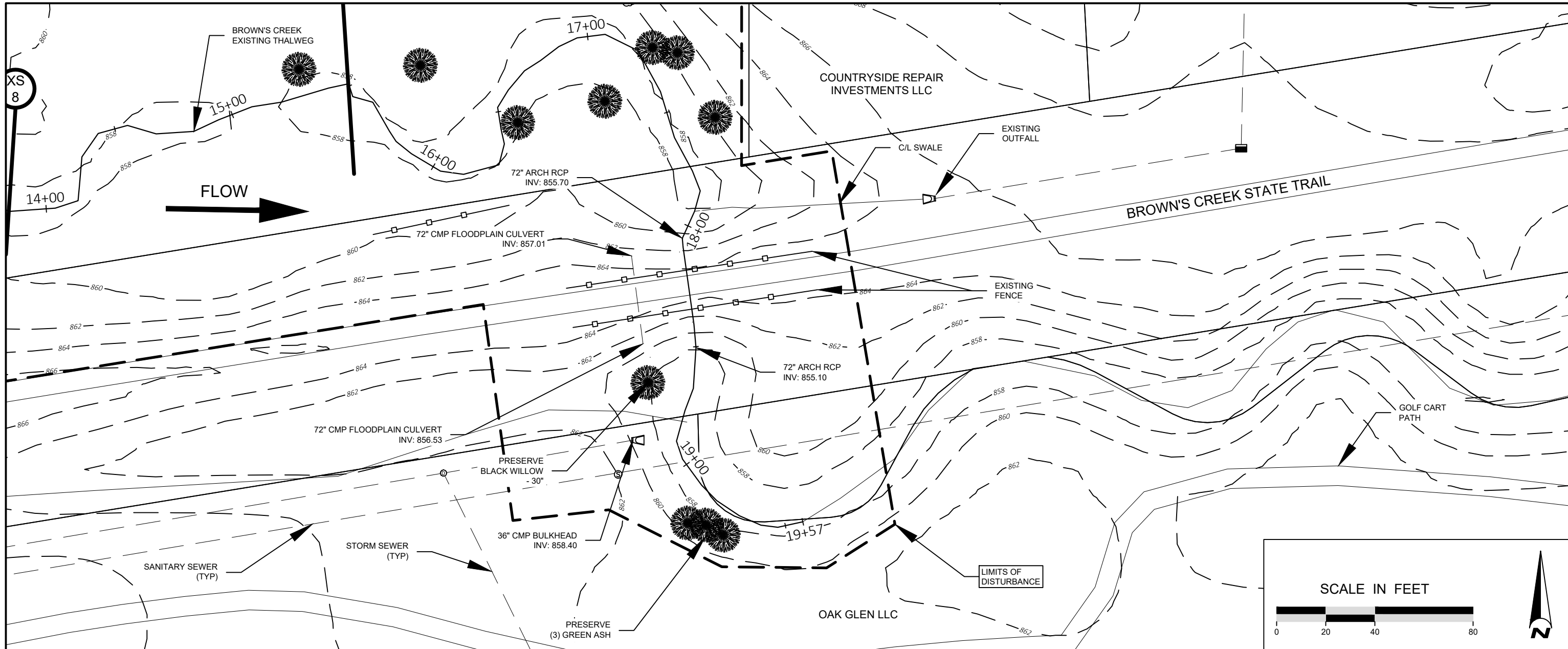
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BROWN'S CREEK WATERSHED DISTRICT
 CLIENT PROJECT #XXX-XXXX

BROWN'S CREEK PARK STREAM RESTORATION
 WASHINGTON COUNTY, STILLWATER, MN
 BROWN'S CREEK WATERSHED DISTRICT OAKDALE, MN 55128

EXISTING CONDITIONS
 PLAN & PROFILE - 3
 SHEET 09 OF 19

File Date: 06/30/2023
 Project: 40041-0418-CD.dwg
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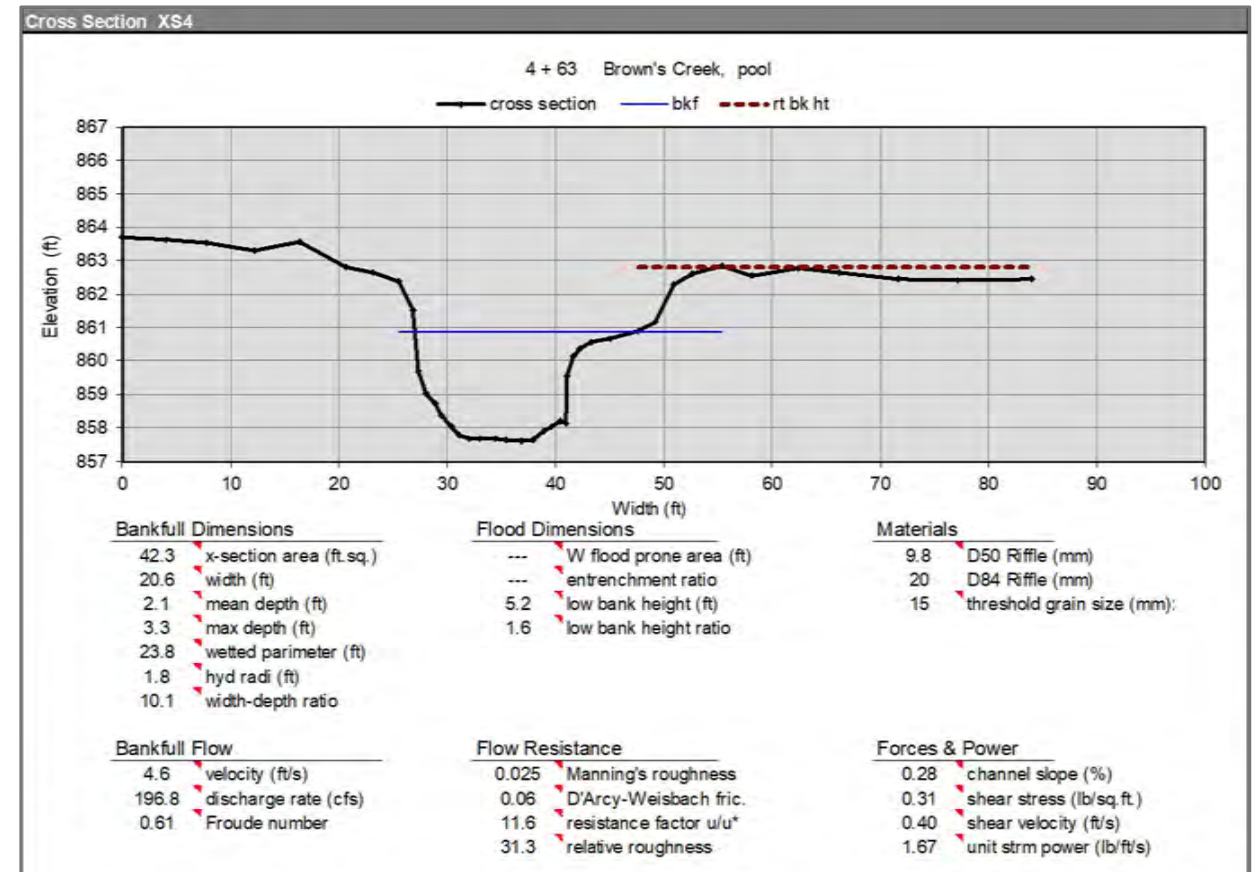
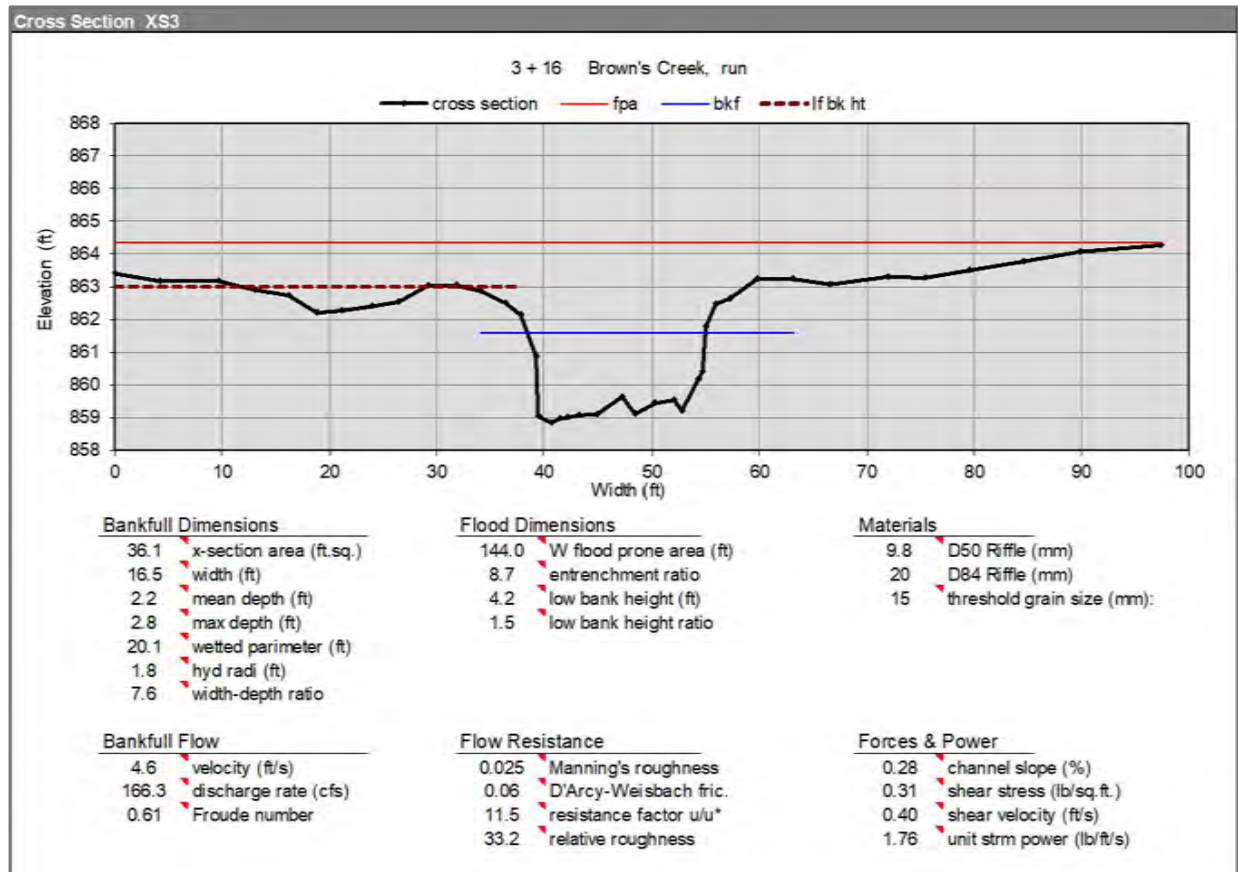
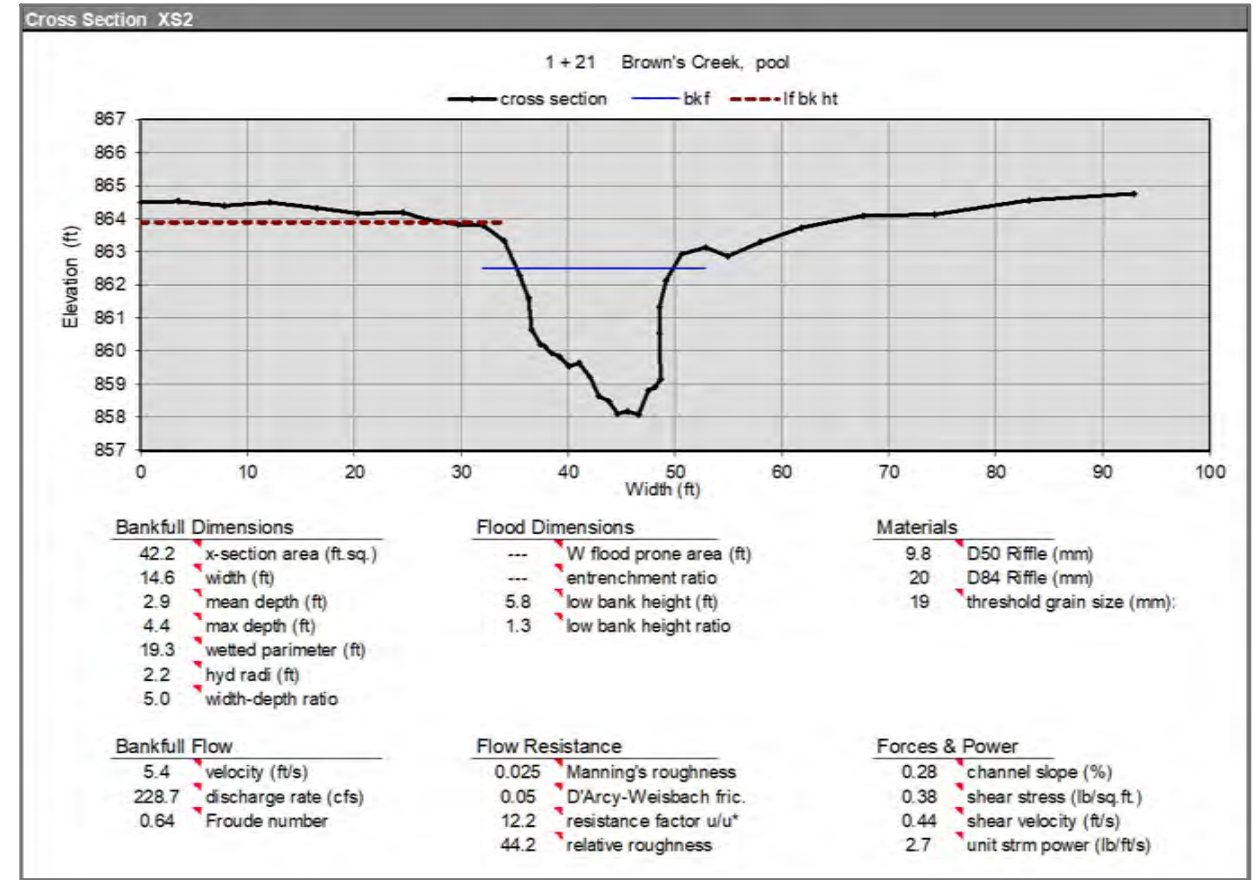
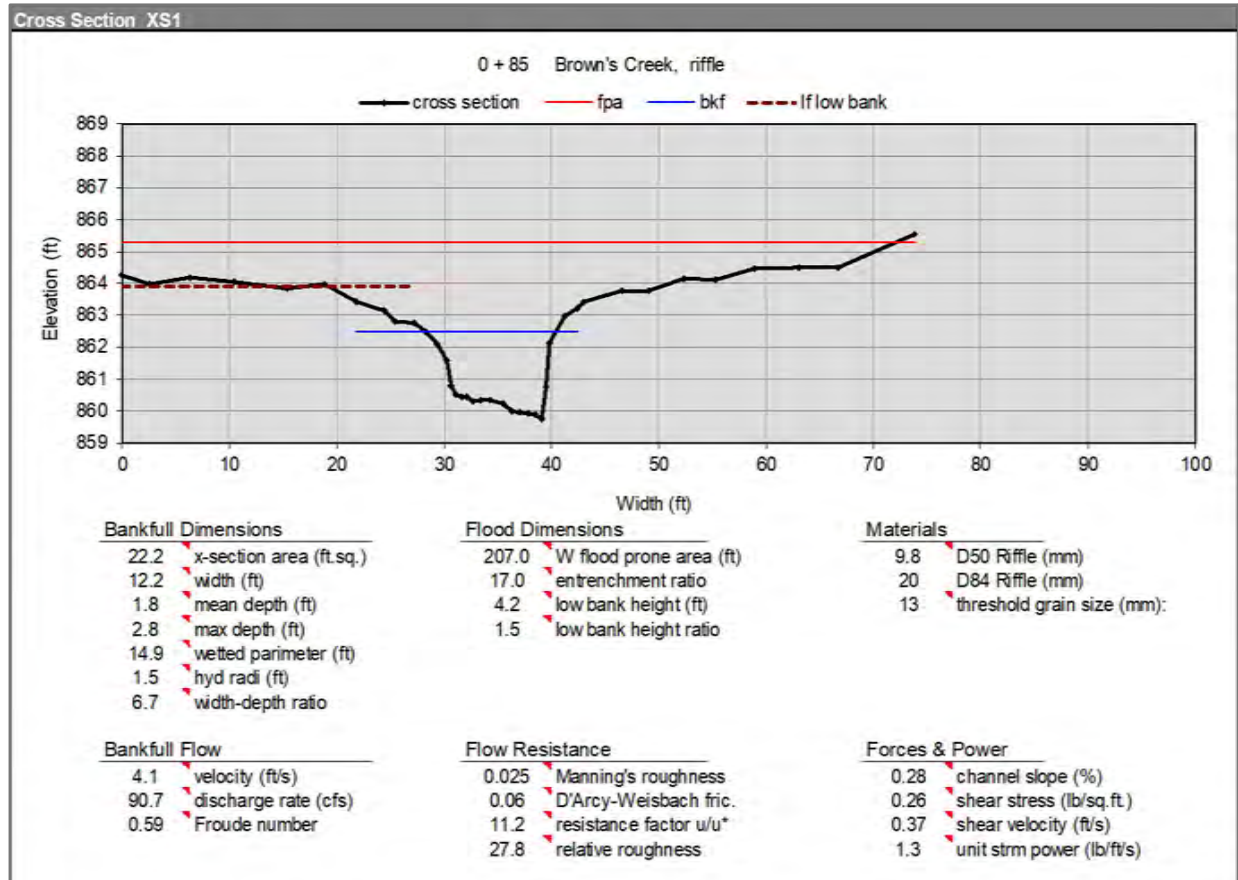
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**BROWN'S CREEK PARK
 STREAM RESTORATION**
 WASHINGTON COUNTY, STILLWATER, MN
 BROWN'S CREEK WATERSHED DISTRICT OAKDALE, MN 55128

EXISTING CONDITIONS
 PLAN & PROFILE - 4
 SHEET 10 OF 19

File Date: 06/30/2023
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 40041_0418-REBASE
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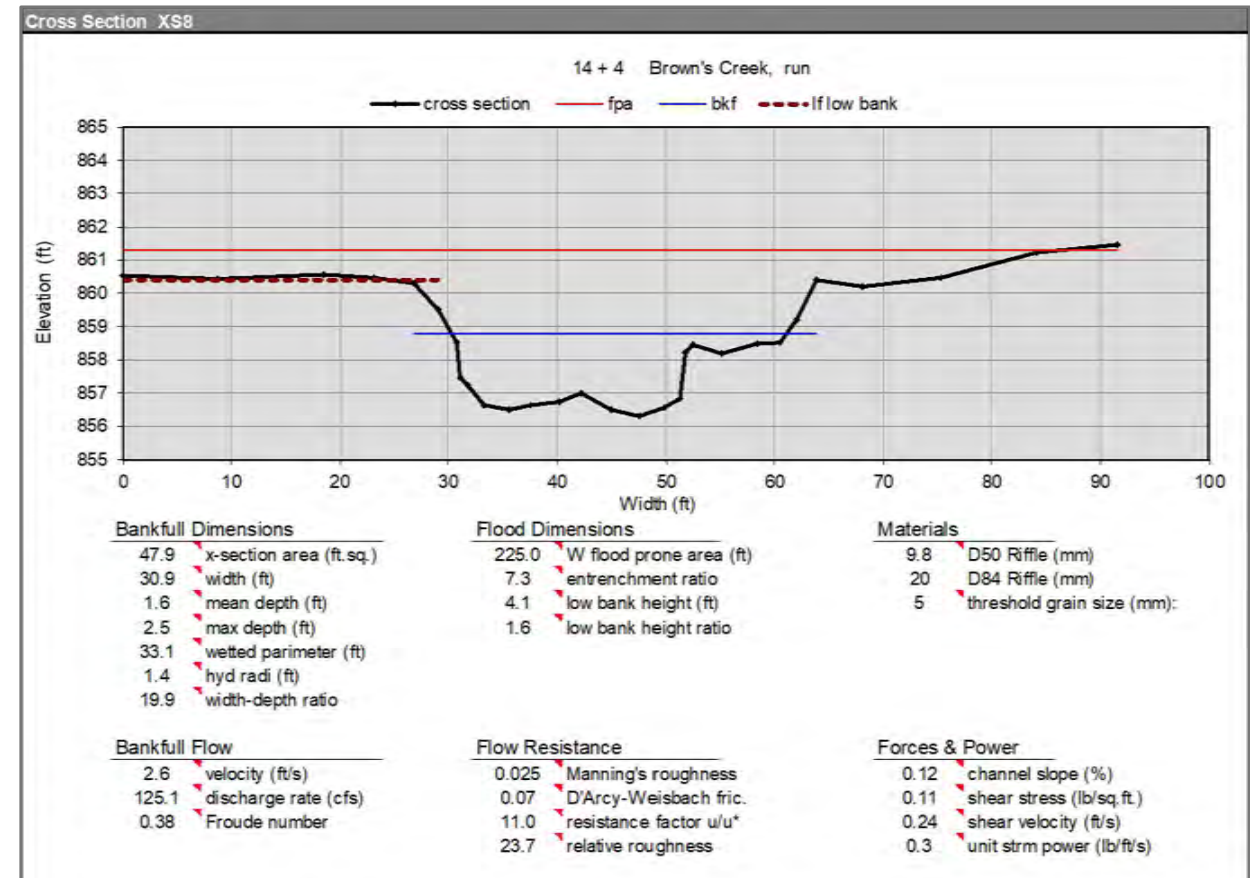
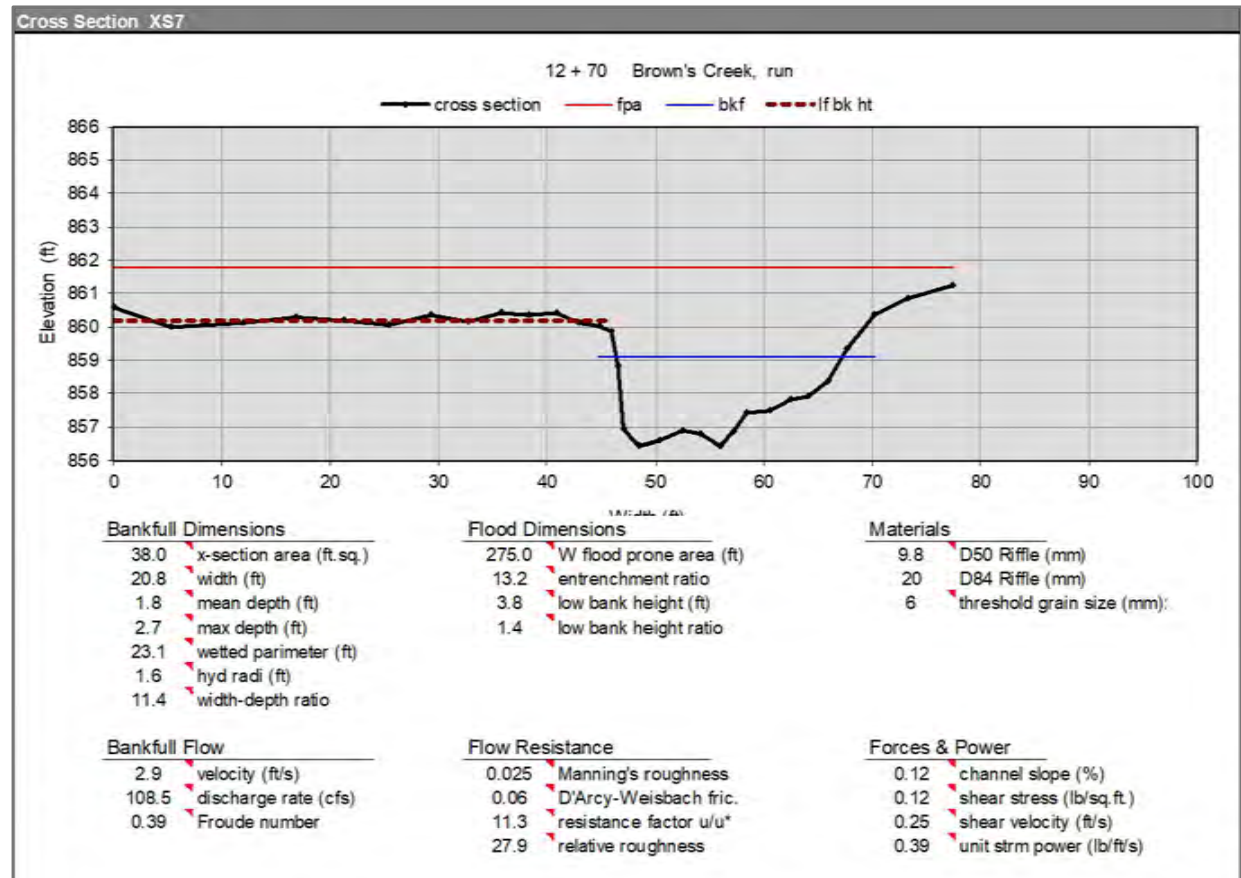
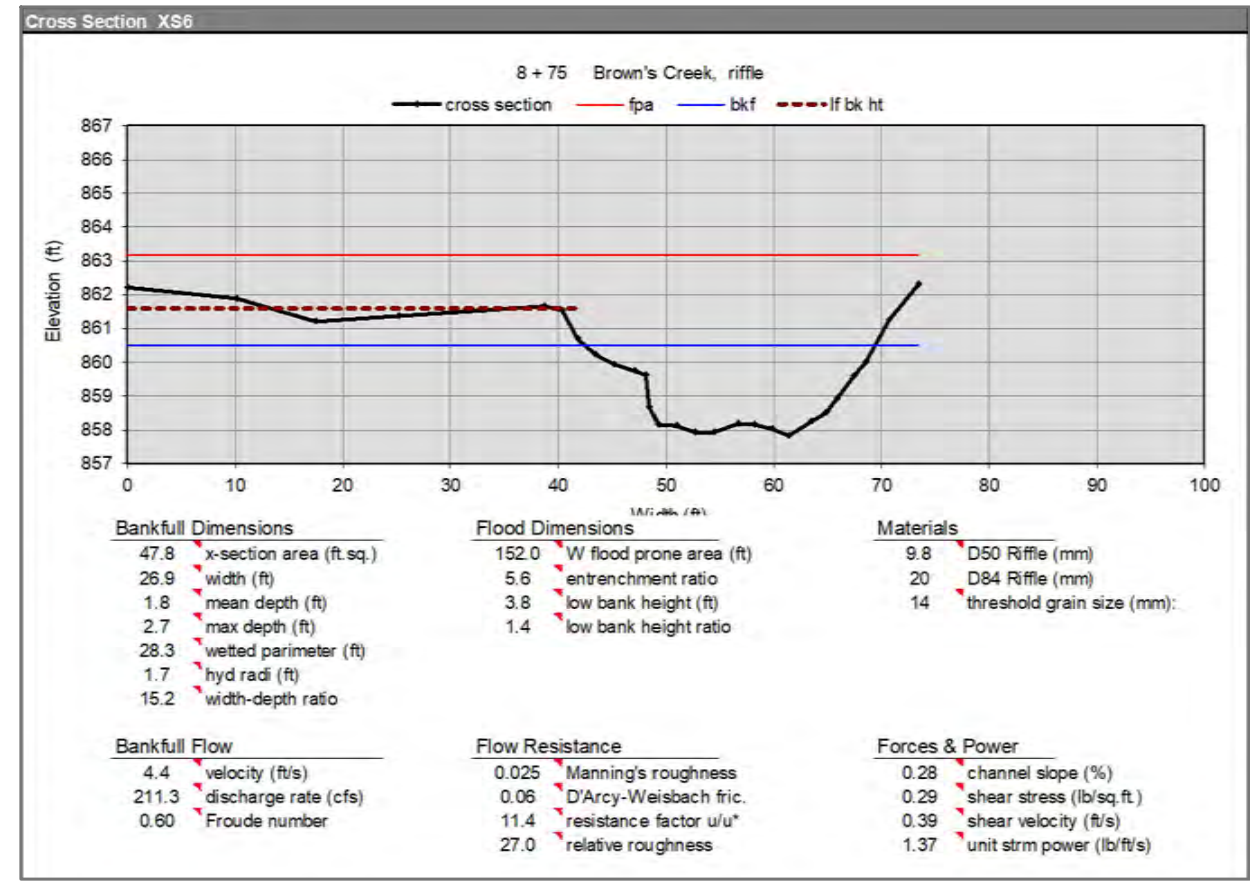
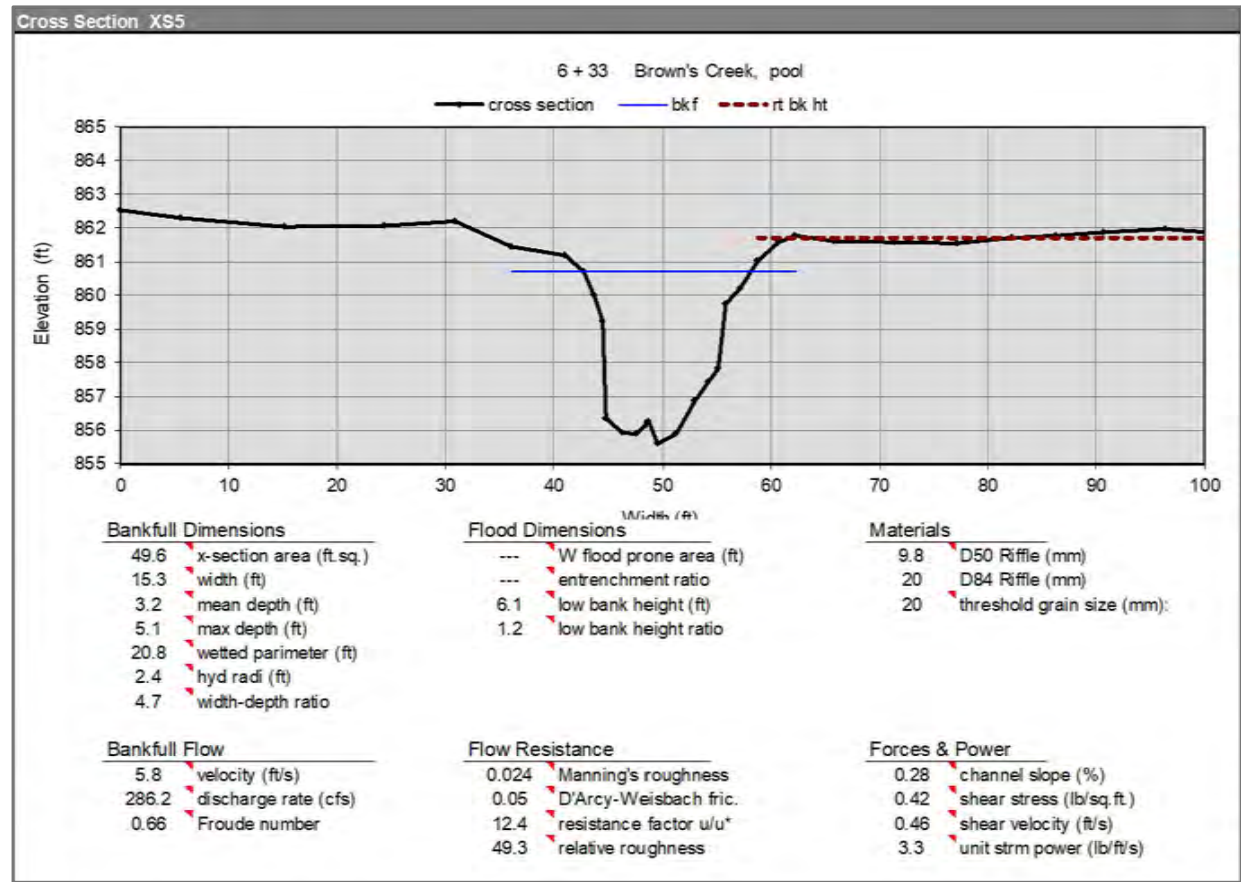
NOTE:
ALL CROSS SECTIONS ARE ORIENTED DOWNSTREAM W/ RIVER LEFT ON THE LEFT AND RIVER RIGHT ON THE RIGHT.

File Date: 06/30/2023
 Xref: 40041_0418-SURFACE
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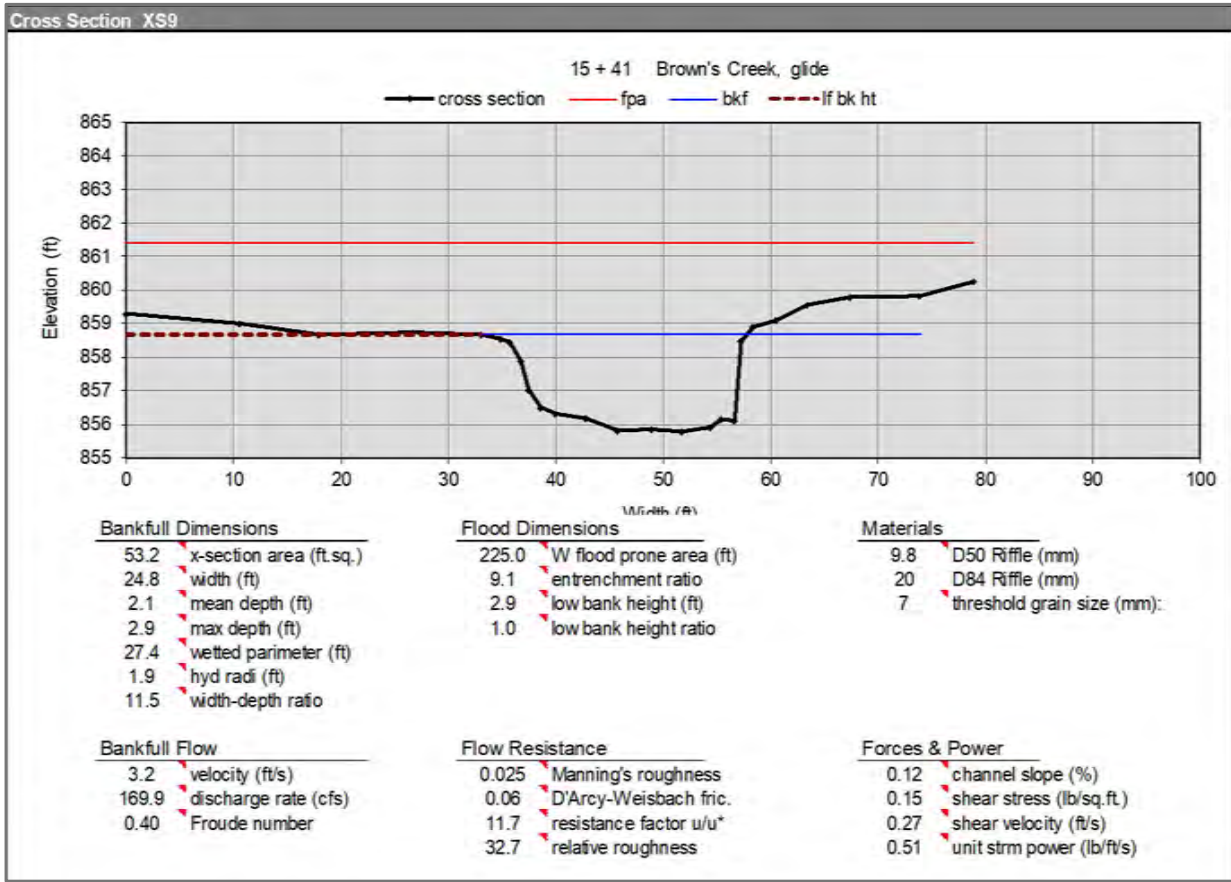
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EOR JOB #0041-0418



**BROWN'S CREEK PARK
STREAM RESTORATION**
WASHINGTON COUNTY, STILLWATER, MN
BROWN'S CREEK WATERSHED DISTRICT OAKDALE, MN 55128

EXISTING CROSS SECTIONS - 2
SHEET 12 OF 19



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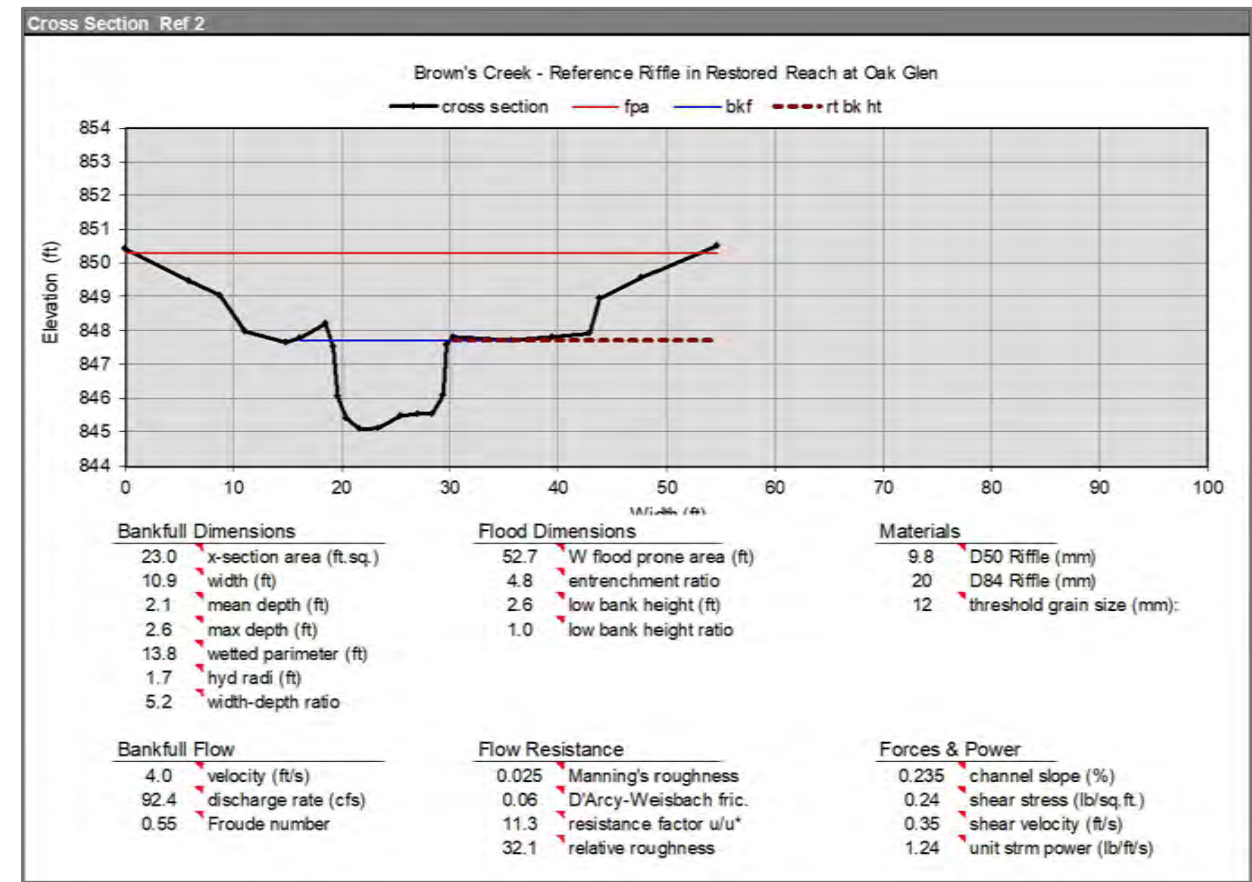
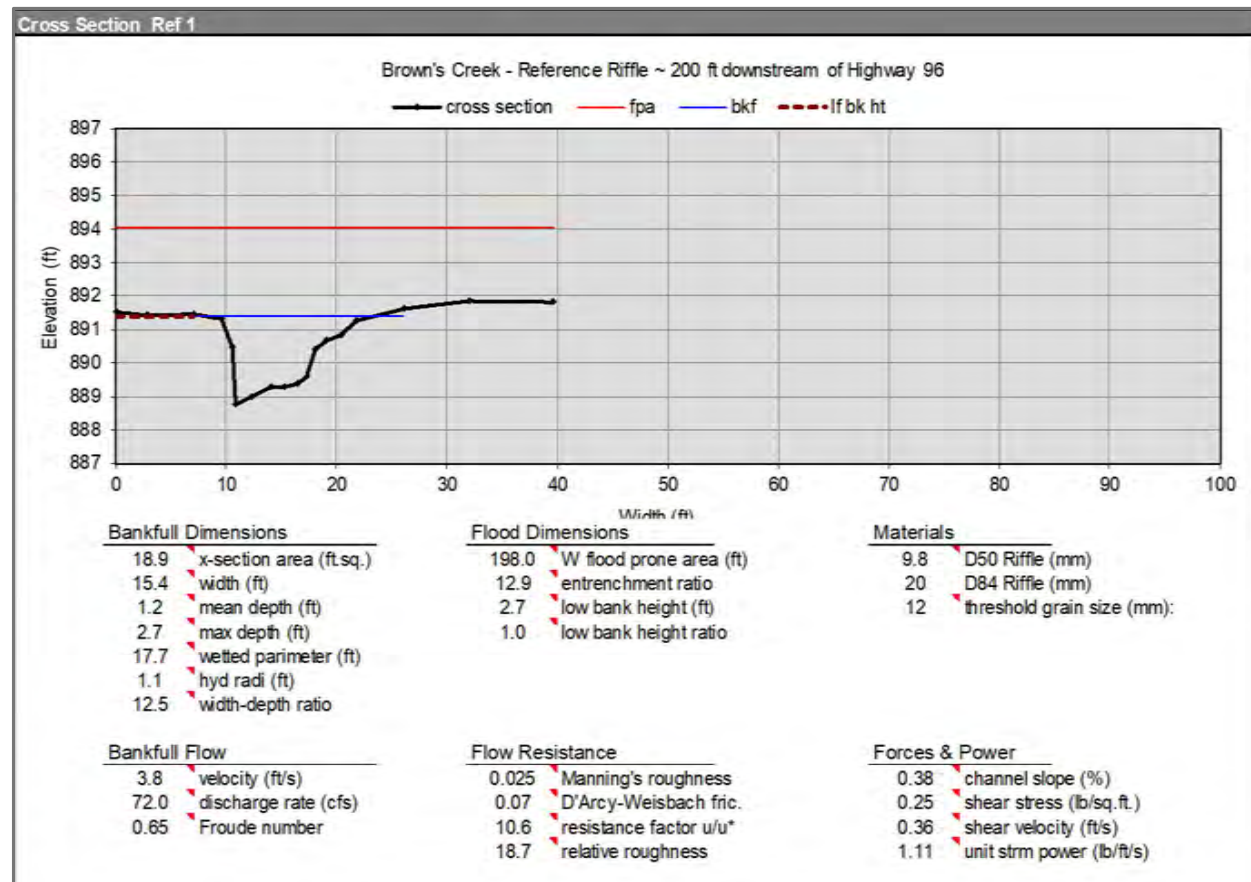
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**BROWN'S CREEK PARK
STREAM RESTORATION**
WASHINGTON COUNTY, STILLWATER, MN
BROWN'S CREEK WATERSHED DISTRICT OAKDALE, MN 55128

EXISTING CROSS SECTIONS - 3
SHEET 13 OF 19

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 40041-0418-REBASE
 40041-0418-CD.dwg
 Images: \images\BCWD_top_xcidents_wd041_boxed018_brown's_ck_pk_restro09_gm\images\GSC\Logo_2019



NOTE:

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 40041_0418-REBASE
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 DRAWN BY: DEM
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EOR JOB #0041-0418

CLIENT PROJECT #XXX-XXXX

**BROWN'S CREEK PARK
 STREAM RESTORATION**

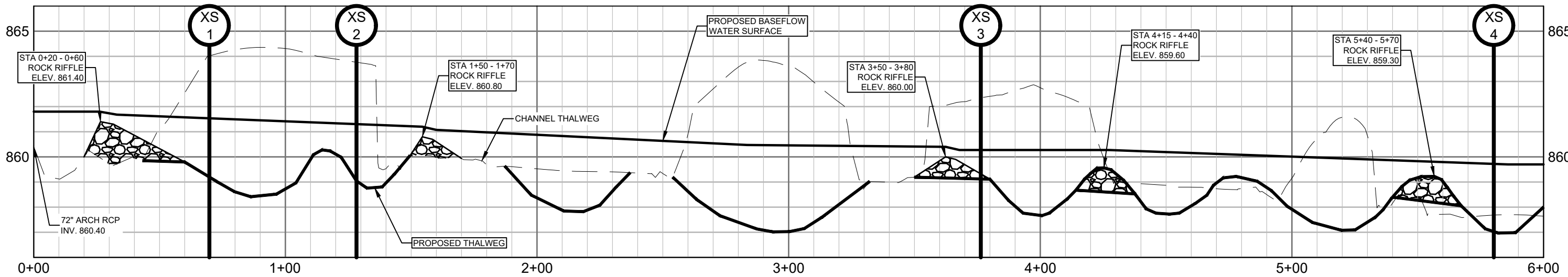
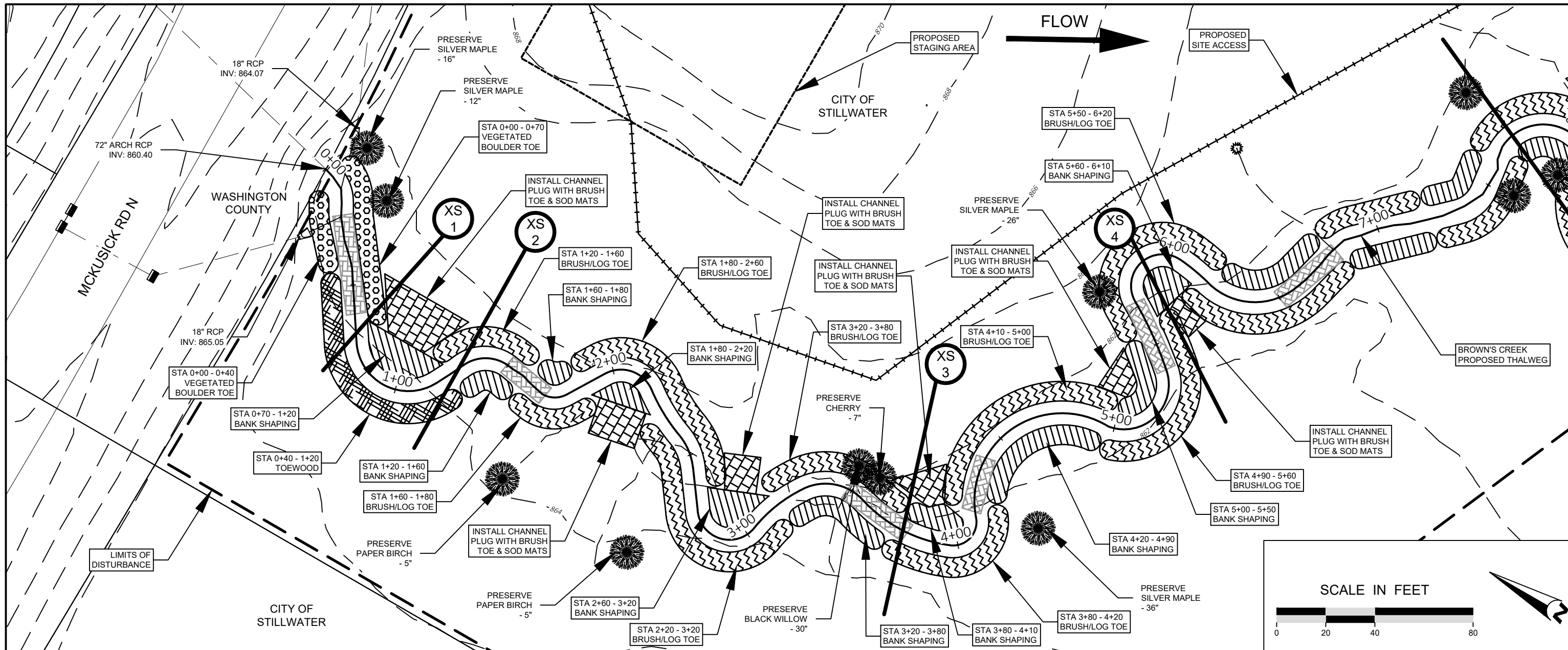
WASHINGTON COUNTY, STILLWATER, MN

BROWN'S CREEK WATERSHED DISTRICT

OAKDALE, MN 55128

REFERENCE
 CROSS SECTIONS

SHEET 14 OF 19



File: 06/30/2023
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 40041_0418-RBASE
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 40041_0418-TOE.dwg
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EOR water ecology community
 EMMONS & OLIVIER RESOURCES, INC.
 1919 UNIV. AVE. W. #300 ST. PAUL, MN
 TEL: 651.770.8448 WWW.EORINC.COM

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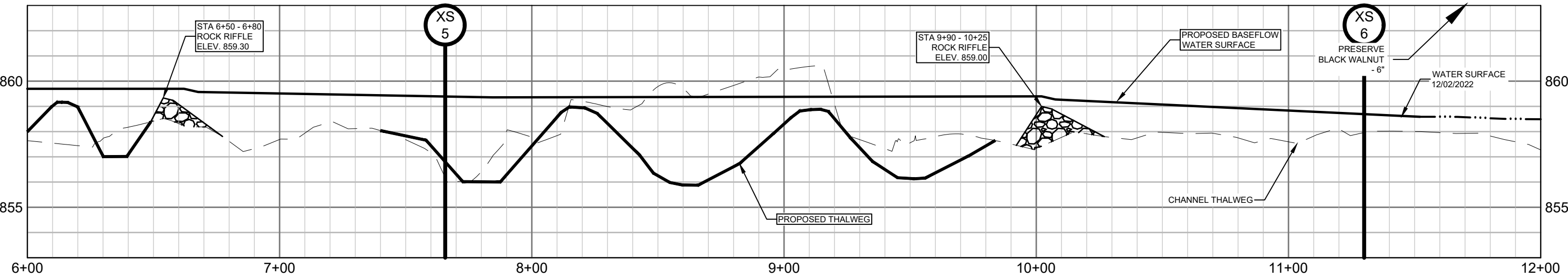
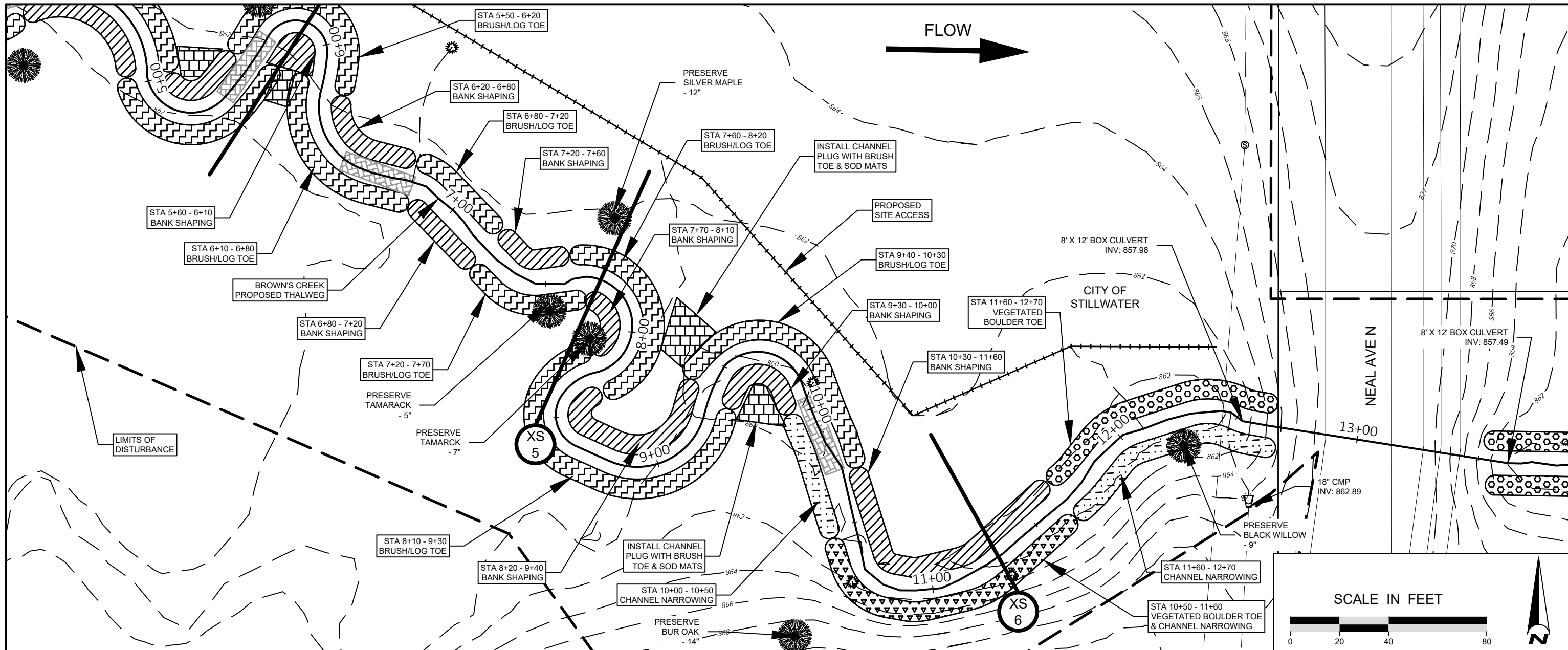
DATE	NO.	DESCRIPTION
06/30/2023	1	30% DESIGN PLAN SET
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DESIGNED BY: EOR
 DRAWN BY: DEM
 CHECKED BY: MJM
 EOR JOB #0041-0418

BROWN'S CREEK WATERSHED DISTRICT
 CLIENT PROJECT #XXX-XXXX

BROWN'S CREEK PARK STREAM RESTORATION
 WASHINGTON COUNTY, STILLWATER, MN
 BROWN'S CREEK WATERSHED DISTRICT OAKDALE, MN 55128

PROPOSED PLAN & PROFILE - 1
 SHEET 15 OF 19



NOT FOR CONSTRUCTION



DATE	NO.	DESCRIPTION
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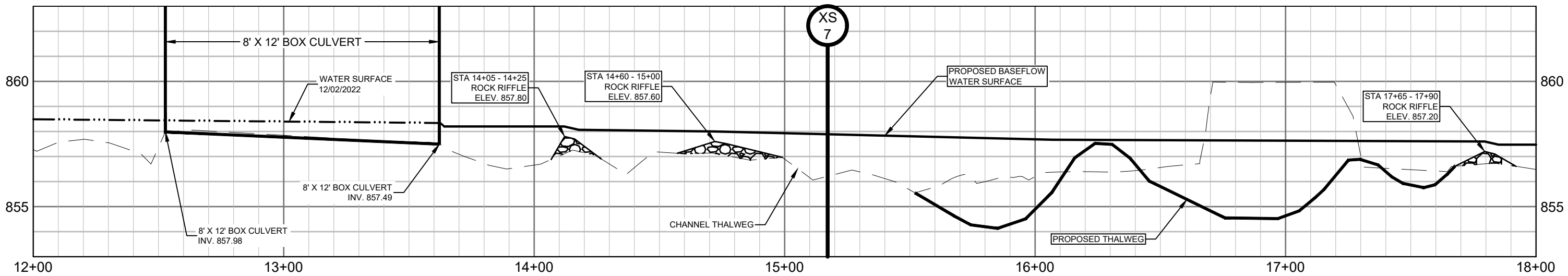
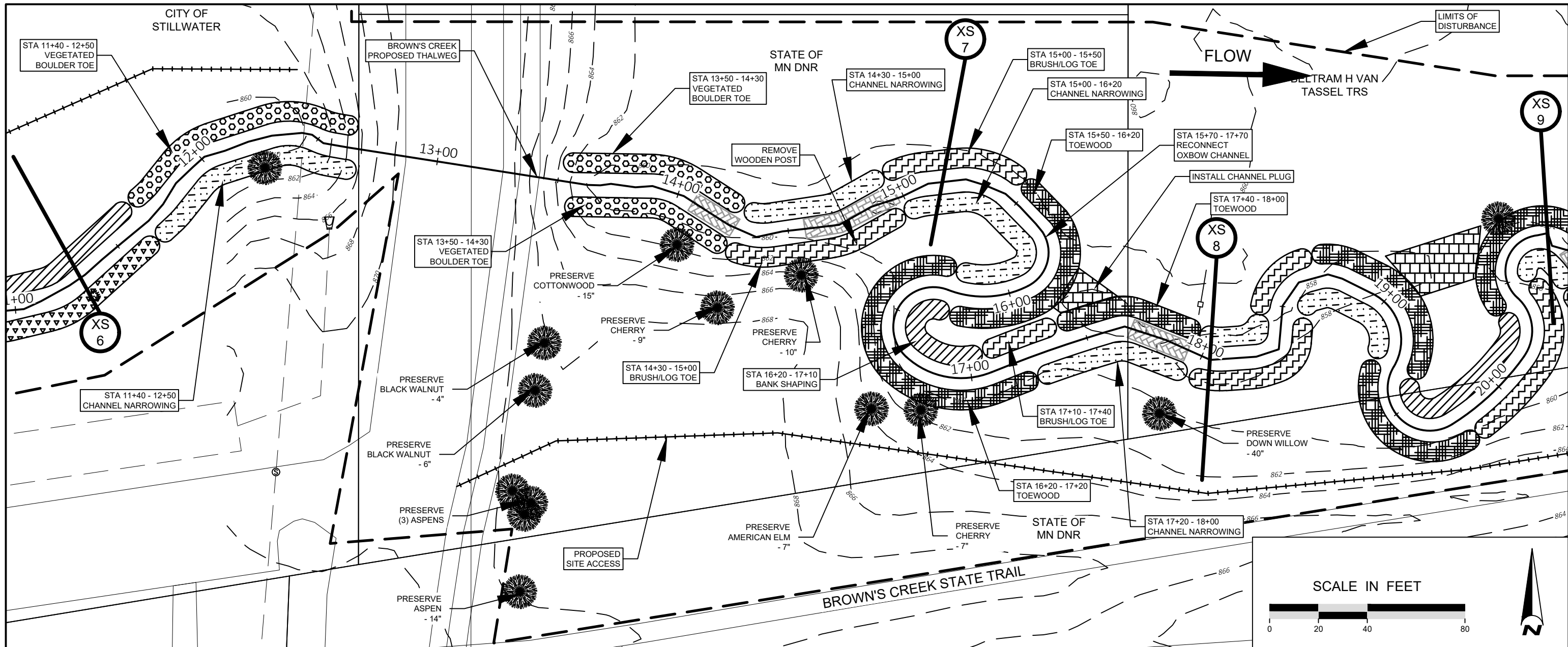
DESIGNED BY: EOR
 DRAWN BY: DEM
 CHECKED BY: MJM
 EOR JOB #0041-0418

BROWN'S CREEK WATERSHED DISTRICT
 CLIENT PROJECT #XXX-XXXX

**BROWN'S CREEK PARK
 STREAM RESTORATION**
 WASHINGTON COUNTY, STILLWATER, MN
 BROWN'S CREEK WATERSHED DISTRICT OAKDALE, MN 55128

PROPOSED PLAN &
 PROFILE - 2
 SHEET 16 OF 19

File Date: 06/30/2023
 Project: X:\Clients\W0041_Brown's_Ck_Pk_Rest09_GNIS\Map\0041_0418-CD.dwg
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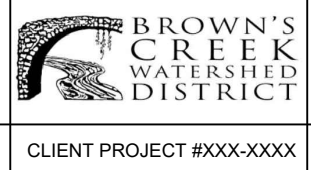


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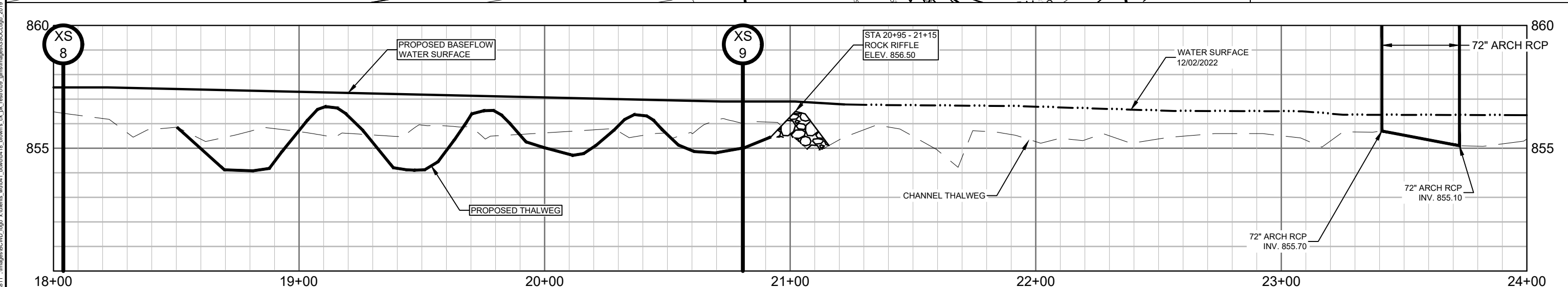
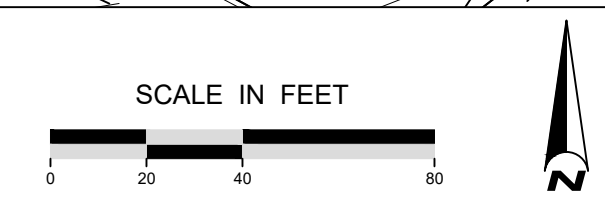
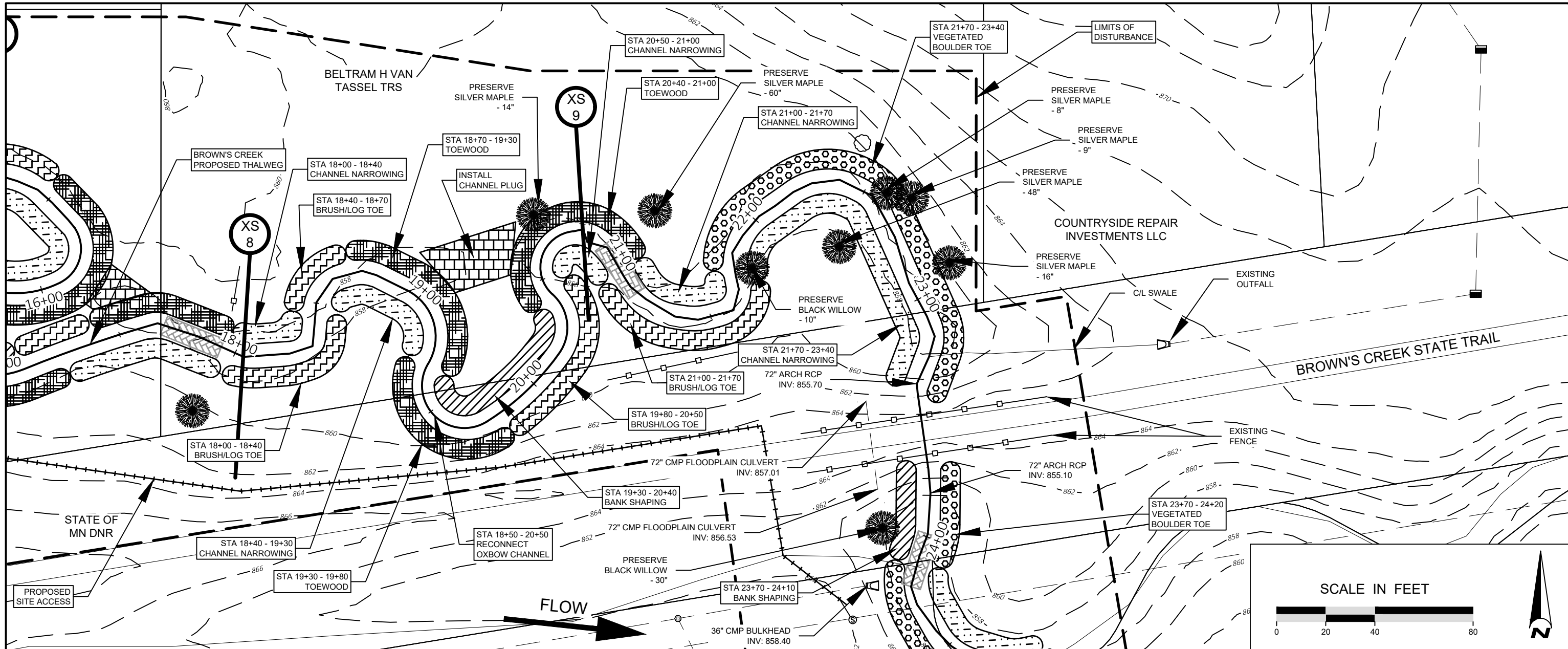
DESIGNED BY: EOR
 DRAWN BY: DEM
 CHECKED BY: MJM
 EOR JOB #0041-0418



**BROWN'S CREEK PARK
 STREAM RESTORATION**
 WASHINGTON COUNTY, STILLWATER, MN
 BROWN'S CREEK WATERSHED DISTRICT OAKDALE, MN 55128

PROPOSED PLAN &
 PROFILE - 3
 SHEET 17 OF 19

File: 06/30/2023
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 40041_0418-CD.dwg
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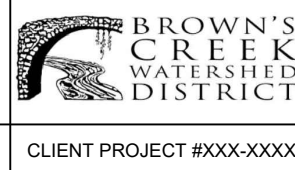


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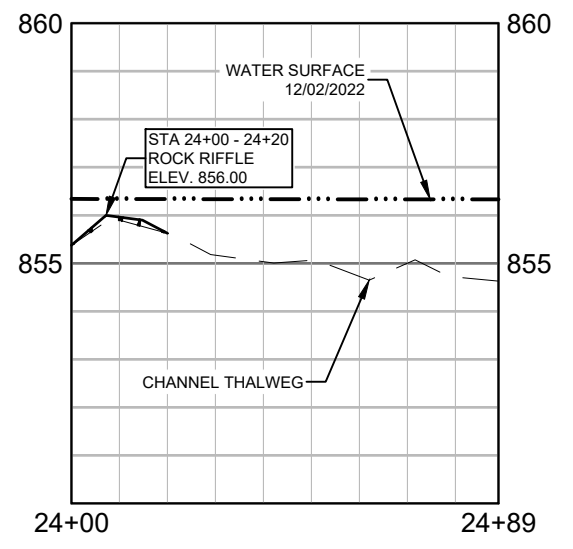
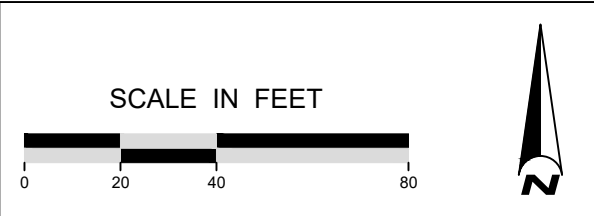
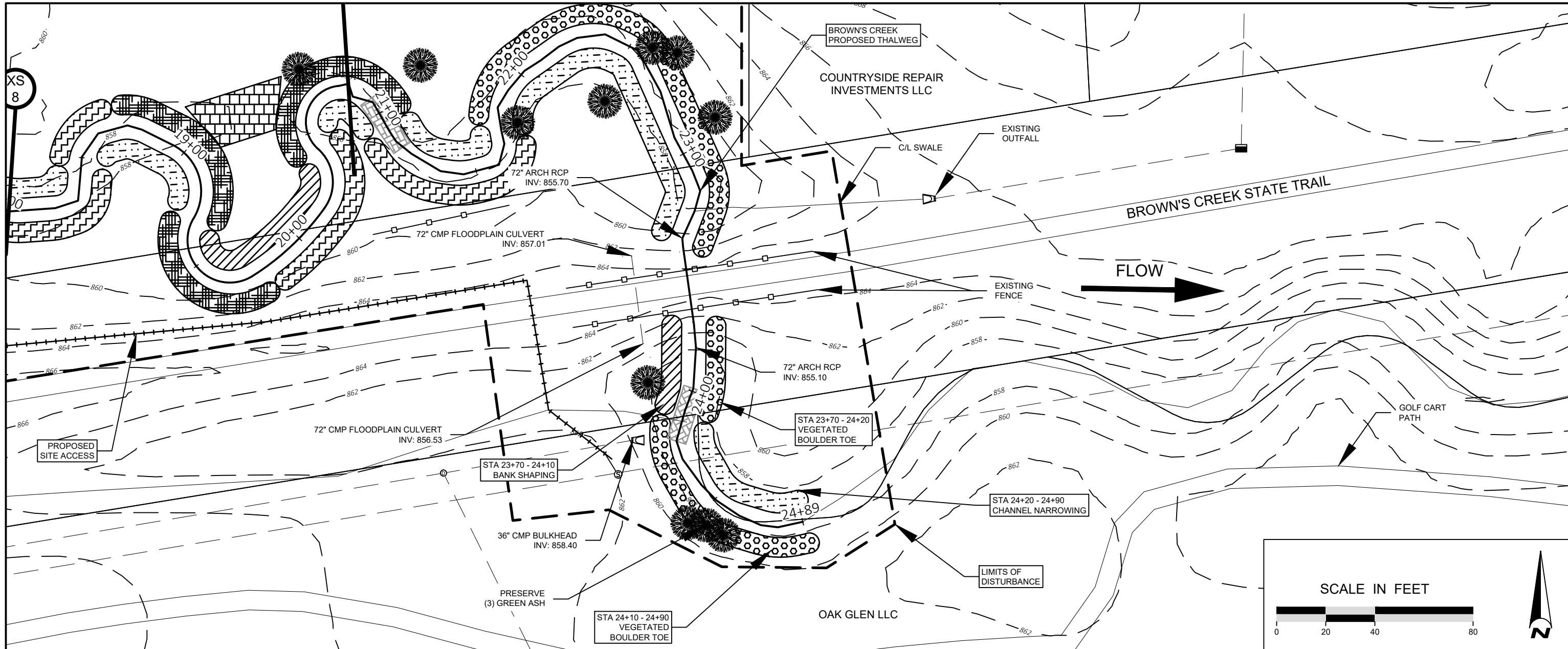
DESIGNED BY: EOR
DRAWN BY: DEM
CHECKED BY: MJM
EOR JOB #0041-0418



BROWN'S CREEK PARK STREAM RESTORATION
WASHINGTON COUNTY, STILLWATER, MN
BROWN'S CREEK WATERSHED DISTRICT OAKDALE, MN 55128

PROPOSED PLAN & PROFILE - 4
SHEET 18 OF 19

File: 06/30/2023
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 Xrefs: 40041_0418-SURFACE
 40041_0418-REBASE
 40041_0418-REBASE
 40041_0418-REBASE
 40041_0418-REBASE



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DATE	NO.	DESCRIPTION
06/30/2023	1	30% DESIGN PLAN SET
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DESIGNED BY: EOR
 DRAWN BY: DEM
 CHECKED BY: MJM
 EOR JOB #0041-0418

BROWN'S CREEK WATERSHED DISTRICT
 CLIENT PROJECT #XXX-XXXX

BROWN'S CREEK PARK STREAM RESTORATION
 WASHINGTON COUNTY, STILLWATER, MN
 BROWN'S CREEK WATERSHED DISTRICT OAKDALE, MN 55128

PROPOSED PLAN & PROFILE - 5
 SHEET 19 OF 19

File Date: 06/30/2023
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ENGINEER'S OPINION OF PROBABLE COST (EOPC) - 30% DESIGN

BCWD - BROWN'S CREEK PARK

PREPARED BY EMMONS & OLIVIER RESOURCES, INC.

EOR JOB NO.

0041-0418

DATE PREPARED

6/30/2023



ITEM #	MNDOT Ref #	BASE BID ITEM	UNIT	QUANTITY	UNIT COST	TOTAL COST
1	2021.501	Mobilization	LS	1	\$ 24,000.00	\$ 24,000.00
2	2563.601	Traffic Control	LS	1	\$ 1,500.00	\$ 1,500.00
3	2101.501	Site Clearing/Selective Tree Harvest for Rootwads & Tree Trunks (212 Trees TBR)	AC	10.2	\$ 4,000.00	\$ 40,800.00
4	2105.507	Common Excavation - Onsite Disposal- Grading Practices	CY	1211	\$ 10.00	\$ 12,106.44
5	2105.507	Common Excavation - Onsite Disposal- Riffle Grading	CY	105	\$ 15.00	\$ 1,572.22
6	SP	Hauling Excavated Material to On-site Spoils Area	CY	985	\$ 15.00	\$ 14,776.33
7	2511.509	Riprap, Modified Class III (Boulder Toe & Grade Control)	TON	688	\$ 80.00	\$ 55,038.00
8	2511.509	1" - 3" Crushed Granite (For Rock Riffles)	TON	58	\$ 150.00	\$ 8,705.81
9	SP	Toewood - Installation	LF	480	\$ 80.00	\$ 38,400.00
10	SP	Brush/Log Toe - Installation	LF	1360	\$ 60.00	\$ 81,600.00
11	2573.501	Stabilized Construction Exit	EA	2	\$ 2,500.00	\$ 5,000.00
12	2575.505	Seeding - Site Disturbance	AC	10.2	\$ 800.00	\$ 8,160.00
13	2575.508	Seed, State Mix 34-261	LBS	71	\$ 50.00	\$ 3,550.00
14	2575.508	Seed, State Mix 36-711	LBS	96	\$ 50.00	\$ 4,800.00
15	2575.508	Hydraulic Soil Stabilizer, Type 8 (Mat Inc® Soil Guard or approved equal)	LBS	8651	\$ 2.00	\$ 17,302.00
16	2575.511	Mulch Type 1 (Weed-Free Straw or Approved Equal)	TON	16.0	\$ 600.00	\$ 9,600.00
17	2573.501	Erosion Control Supervisor	LS	1	\$ 2,500.00	\$ 2,500.00
18	SP	Temporary Irrigation for Vegetation Establishment	DAY	5	\$ 2,000.00	\$ 10,000.00
19	SP	Extended Vegetation Management - Year 1	LS	1	\$ 5,000.00	\$ 5,000.00
20	SP	Extended Vegetation Management - Year 2	LS	1	\$ 5,000.00	\$ 5,000.00
21	SP	Inspection & Maintenance/Repair of Work - Year 1	LS	1	\$ 6,000.00	\$ 6,000.00
22	SP	Inspection & Maintenance/Repair of Work - Year 2	LS	1	\$ 3,000.00	\$ 3,000.00
BASE BID SUBTOTAL						\$ 358,410.81
CONSTRUCTION CONTINGENCY					20.00%	\$ 71,682.16
Construction Total						\$ 430,092.98
ESTIMATED ACCURACY RANGE***				7.50%	\$	462,349.95
				-7.50%	\$	397,836.00